REPORT RESUMES

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A STUDY OF INTERPERSONAL RELATIONS WITHIN FAMILIES.
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THE CRAIG HOUSE FOR CHILDREN HELPS FAMILIES UNDERSTAND AND REACH DECISIONS ABOUT THEIR PROBLEMS AND THEIR LIFE SITUATIONS. TO HELP WITH THIS TASK, THIS STUDY SOUGHT TO DISCOVER WHICH UNITS OF THE FAMILY GIVE THE MOST INFORMATION IN INTERVIEWS ABOUT THE DYNAMICS OF THE FAMILY IN RELATIONSHIP TO THE PROBLEM OF THE REFERRED CHILD. IN THE FIRST YEAR OF THE STUDY, INTERVIEWS WERE HELD WITH 24 FAMILIES. THESE INTERVIEWS WERE ANALYZED DURING THE SECOND YEAR. DURING THE THIRD YEAR, NEW CONCEPTS WERE INTRODUCED AND DEVELOPED TO TREAT THE COLLECTED DATA. THE INTERVIEWS JUDGED SUCCESSFUL BY CLINICIANS WERE THOSE IN WHICH CHANGE OCCURRED IN THE PARTICIPANTS. THE PROBLEM OF THE ASSESSMENT OF CHANGE LED TO THE GENERAL SYSTEMS THEORY WHICH PROVIDES FOR THE HIERARCHAL ORDERING OF COMPONENTS AND THE CONCEPT OF STEADY STATE AND CHANGE. UTILIZING THIS CONCEPT, A QUANTITATIVE ANALYSIS WAS MADE OF AN INTERVIEW. EACH OF FIVE INSTRUMENTS USED TO LOCATE SIGNIFICANT CHANGES GAVE EVIDENCE OF A STEADY STATE, A CHANGE, AND A NEW STEADY STATE. THE THERAPEUTIC PROCESS WAS CONCEPTUALIZED IN TERMS OF AN INTERPLAY BETWEEN INFORMATION, RELATIONSHIP, AND DECISION. DECISION IS EQUIVALENT TO CHANGE. THIS TYPE OF ANALYSIS CONTRIBUTES CONCEPTUALLY AND METHODOLOGICALLY TO THE STUDY OF INTERVIEWS AND THE THERAPEUTIC PROCESS. (SK)

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A STUDY OF INTERPERSONAL RELATIONS WITHIN FAMILIES

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CONTENTS

I. INTRODUCTION. 1

II. ORIGINAL APPROACH 2

III. NEW MODEL 4

A. General Systems Theory 4
B. Information, Relationship and Decision 5
C. Quantification 6

IV. ANALYSIS OF INTERVIEW 7

A. Selection of Scales 7
B. General Procedure 11
C. The Family 25
D. Results 27

V. DISCUSSION AND SUMMARY 53

Exhibit A: An Assessment of Family Interviewing . . . 57
Exhibit B: Systems Approach to Behavior and Change. . 75

Appendix 1: Interviewer Report Form 84
Appendix 2: Analysis of Interviewer Report Form . . . 95

Attachment: Family Therapy - Some Observations & Comparisons

I. INTRODUCTION

The overall objective of the clinic is to help families understand and reach decisions regarding their problems and the life situation of which they are a part. This research was undertaken to assist the clinic in its task. Specifically, we were searching for better ways of understanding the family during the diagnostic period.

In attempting to state this as a problem to which answers could be found, we formulated the general question "Which units of the family in interviews will give the most information regarding the dynamics of the family in relationship to the presenting problem of the referred child?"

The design called for the collection of six interviews with various components of the family by an outside interviewer. A major instrument used in the research was an Interviewer Report Form (see Appendix 1) completed by the interviewer which set forth significant incidents, family perceptions, family relationships, judgments about family dynamics, and global ratings of the interview.

In the first year of the study we collected interviews from twenty-four families. In the second year we analyzed the interviews and came to conclusions about the value of different types of interviews. We also became painfully aware of the complexities of our task and the inadequacy of our methods. In the third year we brought in new concepts and developed new ways of treating our material. We see the early work on this project as the necessary spade work upon which the later work was based, and we consider this later work to be the major contribution of the project.

II. ORIGINAL APPROACH

The paper "An Assessment of Family Interviewing" presented before the American Orthopsychiatric Association in 1964 gives a concise outline of the project and a summary of the findings at that time. This paper appears in this report as Exhibit A.

The positive value of this phase of the research is the guide lines it furnishes to the clinic administrator. It is important to know how the family operates before information can be obtained as to why the family came to develop this particular style of behavior. Interviewing the family group is the most direct way of seeing how the family functions. Interviews with the parents can then confirm details of how the family operates, and begin to give information about the whys, and this can then be further explored in individual interviews with the father and mother. We did not find that interviews with the sibling group or with the referred child ordinarily gave information that was not obtained from interviews with other units. If decisions must be based upon a minimum number of interviews it is our opinion that family interviews are the best investment for the time involved. The need to conceptualize the differences between Family Therapy and conventional therapy led to the paper "Family Therapy--Some Observations and Comparisons" which was published in Family Process and is attached to this report.

The Interviewer Report Form appears as Appendix 1, and analysis of the data supplied by the form is given in Appendix 2. Early explorations made it evident that we were not getting meaningful results from this instrument, and further work only confirmed this. The data elicited from the interviewers were too diverse to be meaningfully gathered together. The critical incidents reported by the interviewers in Section One for example, covered a range of etiologic factors, behavioral observations, dynamic interpretations and interviewer reactions, and the classifying of them required extensive inferences on the part of the research worker. Section Two and Section Three elicited information about perceptions of each other by members of dyads, and the relationship between members of dyads, which was interesting in itself, but this did not add up to knowledge about how the family as a whole operated.

After collecting and analyzing our data we were faced with three major difficulties:

1. Diversity

As we studied the various families in the project we were baffled as to how we could bring twenty-four families within a common framework. The meaningful events differed widely from one family to another. It was clear that we needed a method of broad scope that would allow the representation and ordering of varied events and indicate the relationship between events. Such a framework should provide for significant events and allow the omission of non-significant factors.

2. "Information is not enough"

Our original question was "Interviews with what unit of the family will give the most information regarding the dynamics of the family in relationship to the presenting problem of the referred child?" This was not the right question, as some of our "good interviews" contained relatively little first order information, and some interviews that gave a great deal of information were clinically very frustrating. Information must be related to pattern to be meaningful.

3. "Content is overwhelming"

Attempts to analyze the content of the interviews proved to be impossible because of the sheer mass of raw data.

Faced with these obstacles, we, in effect, developed a new project.

III. NEW MODEL

The material that follows then represents more the outline of a project and the introduction of a new approach than a piece of definitive work.

We attempted to meet the obstacles outlined above in the following ways:

A. General Systems Theory

Both the problem of handling large masses of data and the problem of studying families within a common framework led us to consider General Systems Theory as a possibly useful model.

General Systems Theory first of all provides for the hierarchal ordering of components, and for the behavioral scientist the meaningful levels may well be; cell, organ, organ system, individual, nuclear family, extended family, community and culture. If we take the nuclear family as our system, the lower levels are sub-systems and the upper levels are super-systems. Meaningful events for the life of the family can then be blocked out at the appropriate level, and their structural relationship noted.

A network or flow diagram can also be prepared, representing the meaningful events as circles, which are linked by arrows representing activities to dependent or derivatory events. The network then illustrates how events are related by activities over time with other events. We might construct such a network to represent the events and activities that resulted in the family getting to the clinic with their presenting problem. The diagram could then be used to consider what further activities and events must now occur over what period of time, and at what cost in resources if the problem is to be resolved. Limitations of both time and resources have prevented us from doing more with this model in the present project.

B. Information, Relationship and Decision

The shortcomings of Information as the criterion of an effective interview made it necessary for us to take a closer look at the process of the interviews.

The remainder of this report deals with the nature and results of that examination.

An analysis of the interviews which from a clinical point of view were superior resulted in our formulation of the interview process in terms of Information, Relationship and Decision. The interaction of these three factors summarized the events in the best interviews, and were substituted for Information alone as an indicator of a good interview.

Because one of the factors, Decision, involved the concept of change we also found it useful to conceptualize the interview process in terms of Steady State and Change. Our use of General Systems Theory in this respect is outlined in Exhibit B "Systems Approach to Behavior and Change" which was presented at the American Psychiatric Association Regional Research Conference on Family Structure, Dynamics and Therapy in 1965.

C. Quantification

Once it became necessary to deal directly with the interview process we realized the need to use techniques for handling the material that were a step removed from content. These techniques would serve as an index of the interview, and would also provide a quantitative measure of relevant variables.

We thus approached the interview process at two different levels. One was the clinical level of Information, Relationship and Decision and the other the more abstract level of General Systems Theory. Both of these levels influenced the selection of the measuring instruments.

In the following section we shall describe these measuring instruments and how they were applied to one of the research interviews. Our approach to the interview process will be demonstrated by analysis of the results in terms of the two levels proposed.

IV. ANALYSIS OF INTERVIEW

As indicated earlier, circumstances limited the scope of the final phase of the project. We were unable to analyze a group of interviews with a satisfactory degree of thoroughness and had two choices.

One was to restrict the analysis to small segments extracted from several interviews. The location of these segments could be randomly or systematically determined.

The alternative was to focus on a single "good" interview that was typical of those not adequately dealt with in the initial research design. All segments of the interview could be analyzed, thus affording an opportunity to study more reliably the sequence of events.

We chose the latter plan. A complete analysis of one interview seemed more appropriate because our main purpose, at this point, was to describe an approach rather than confirm its general applicability.

A. Selection of Scales

A quantitative analysis of an interview is usually made by means of rating scales constructed to measure relevant dimensions of the content, or by sets of categories to which certain events in the interview can be coded. In this study we faced a special problem. There are no established scales or category systems designed for assessing a clinical interview with two or more family members. Investigations of interview processes in the past have been concerned almost exclusively with communications in individual psychotherapy or non-therapeutic small groups.

Thus our task was also an exploratory one. We had to determine what content variables would be the most profitable to analyze and how these variables should be measured. The "what" part of our problem had been partially resolved earlier in the project when we conceptualized the process of a family interview in terms of the interplay of three factors; the eliciting, blocking or giving of information, relationship and decision. These factors adequately summarized the critical incidents in the interviews and appeared to be relatively separate processes. When combined they enabled us to make sense out of what happened between the interviewer and family members.

Rather than develop our own techniques for quantifying what we considered to be most important areas we searched for established methods that might do the job for us. Although not intended for use with clinical interviews of families, four published scales containing the dimensions in which we were interested were selected. The scales also tapped other dimensions that we had not considered. Thus, while information, relationship and decision were the foci of our attention, other characteristics of the interview were also assessed.

Relationship and decision as conceived in this study include the more obviously therapeutic aspects of the interview. Relationship refers to the mutual acceptance between interviewer and family member while decision, in general, pertains to a change in significant feelings, perceptions, and attitudes that allows conflicts to be resolved. Because therapeutic experiences in a family interview might resemble those occurring in either individual or group psychotherapy, two scales intended for use in those settings were selected, Roger's Process Scale (1958) and Lorr's Dimensions of Interaction in Group Therapy (1964).

The Process Scale purports to measure the critical dimensions in individual psychotherapy and emphasizes intrapersonal phenomena.

Lorr's Scale was developed in one of the most recent studies of group psychotherapy and is restricted to interpersonal behavior.

Together the scales provide a comprehensive description of the overt verbalizations which accompany encounters with self and others in a self-analytic situation.

The exchange of information in the interview was assessed initially by Riskin's Family Interaction Scales (1964) and Chapple's Interaction Chronograph (1940; 1949). The Family Interaction Scales were derived from non-clinical interviews with families in which the members were asked to plan a group activity. The scales deal with structural characteristics of the manifest content and include Clarity, Topic Change, Committment, Intensity and Agreement.

The Interaction Chronograph is a well established scale for measuring temporal aspects of the verbal communications. It is especially useful for measuring changes in equilibrium in interaction systems. The unique feature of the Chronograph is its exclusive attention to dimensions that are unrelated to lexical content, e.g., duration of speech and frequency.

Both of these instruments are supposed to reflect modes of interaction, personality traits and internal states of the speakers. However, our principal purpose for selecting them was to provide a broad, objective description of each family member's style and extent of participation in discussing their problem.

Although The Interaction Chronograph and Family Interaction Scales revealed much about the way the participants talked to each other, we believed that our analysis of the interview would be incomplete unless we had some record of the subject matter or type of information exchanged. In order to meet this need and yet avoid the multiplicity of problems associated with the classification of topics we constructed the Index of Involvement. The Index is a technique for describing the content in terms of references to interpersonal interactions. We categorized what a person talked about according to whom he talked about, and hypothesized that this dimension of the content is a reliable index of its importance to the person speaking.

A more detailed description of each scale and its application in this study will follow.

Thomas P. Mellett, Ph.D.

B. General Procedure

One of the more active interviews with parents was selected for analysis.

The interview was divided into eighteen segments and scored first with the Interaction Chronograph. Scores were computed for the mother, father and interviewer. The duration of each segment was approximately three minutes.

Three pairs of judges then rated the participants in the same segments with the Family Interaction Scales, Dimensions of Interaction in Group Therapy and Process Scale. All of these judgments were made independently and preceded by practice sessions.

The Index of Involvement was not rated independently by judges but was scored cooperatively by the research group.

Neither the Index nor Process Scale could be used to assess the interviewer. Consequently, three of the instruments measured dimensions of the verbal behavior of all participants and two dealt only with the mother and father.

The specific procedures followed plus measures of reliability are incorporated in the scale descriptions.

PROCESS SCALE

The Process Scale was proposed by Rogers (1958) to assess progress in individual psychotherapy. It is an expression of his contention that in successful therapy patients move in identifiable stages from "rigidity and fixity to openness, changingness and fluidity, along a continuum from stasis to process". This loosening kind of movement is described in terms of seven "strands" or factors. Strands are rated separately by means of sub-scales and the ratings are used as a guide for making a global rating. The global rating indicates the person's "process level", or in other words, his position on the continuum.

Investigations of the Process Scale show that it possesses a moderate to high degree of reliability and validity (Tomlinson and Hart, 1962), (Walker et al, 1960). Four of the strands have been found to correlate significantly higher than the others with the global ratings (Van Der Veen 1961). These four strands were selected for use in this study and are described below. They formed the basis for the overall ratings of process which were made on a seven point scale.

Relationship* - The continuum in this Scale reflects the manner in which the person relates to the therapist. At one end of the Scale there is no close personal relationship, and at the other there is a positive, undistorted relationship that is ready to become a permanent reality. At low stages the person either overtly refuses or gives no indication that he desires a close personal relationship. Ambivalence and a qualified acceptance of a relationship appears in a following stage. A close personal relationship is established at Stage 4 and misunderstandings that once were passed by are analyzed jointly and comments such as "only here" or "only with you" are characteristic. It is at the upper end of the Scale where the relationship of the therapist is so important that it performs a central role in what the person is working on. Finally, at the highest stage the relationship is close, but strong feelings toward the therapist are neither needful nor upsetting.

Experiencing* - This Scale focuses on "inward references" or indications that a person gives that he is aware of having an "experience". At the low end of the Scale he does not refer inwardly and he is very remote from his feelings. Movement at first might be indicated by experiential references that are purely intellectual or emotional narratives restricted to external events. At Stage 4, in the admittedly narrow definition of the Scale, the person does refer inwardly. He may ask "what is it in me that does this", or "what does this way that I feel mean". At the upper end of the Scale the person gradually moves from one internal referent to another without blocking, or repetitive exploration.

Personal Constructs** - This Scale is concerned with beliefs attitudes, etc., which reveal the way in which a person construes significant experiences. A very low rating is given if there is no mention of important constructs or if they are presented as global, rigid "facts", e.g., "things are just that way". At higher stages the person begins to defend, justify and cling to his beliefs. At Stage 4, he explains rather than defends and begins to see that many so-called facts are merely experiences he has construed in a certain way. At higher stages on the Scale he is more aware that many things could be interpreted differently, and makes a tentative commitment to new constructs. New constructs are held provisionally at the highest stage and are continually checked against new experiences.

Problem Expression* - The stages on this Scale describe the distinctive ways in which a person talks about his problems. Lowest ratings are given when there is no mention of problems or no direct involvement in those that are mentioned. Higher on the continuum the person includes himself in some difficulty or conflict that is specific and not a general state of affairs. Presenting a specific problem and detailing one's feelings or overt behavior in response to it characterizes Stage 4. At later stages the person discusses the contribution of his own feelings to the problem; his understanding of these feelings; and an actual resolution in terms of a change in feelings.

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* (The Experiencing and Relationship Scales were written by Eugene T. Gendlin, a former member of Carl Rogers' research group. The Scale was revised with the assistance of Marilyn Geist in 1963)

** (The Personal Constructs Scale was written by T. M. Tomlinson who also collaborated with F. Van Der Veen in constructing the Problem-Expression Scale. Both of these individuals were co-workers of Rogers.)

Procedure

The eighteen segments of the interview were rated in order by two experienced clinical psychologists. They used a tape recording and typescript to assign global and strand ratings to each family member's behavior. The judges worked independently and completed the ratings in four sessions. Prior to the final rating, they engaged in several practice sessions which consisted of rating segments of other family interviews and discussing each sub-scale at length.

The judges reported that assuming a "listening attitude" and focusing on "what and how" rather than "why" something was said were the rating instructions they found particularly helpful. They attempted to view a situation or event the way in which an interview participant appeared to do so at the moment he spoke. They also made an effort to "rate the ratee and not his conversational partner's comments or interpretations".

Reliability

The reliability of the Scale was assessed by measures of per cent agreement between the judges (Table 1). Considering the complications involved in rating two

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family members in a diagnostic interview with an instrument designed for the evaluation of one person in individual psychotherapy, the reliability of the Scale was more than satisfactory. Each judge made a total of 180 ratings. Agreement defined as no difference between ratings was 63% and as a difference of one point, 98%. When differences occurred the average of the two ratings was assigned to the segment.

Table 1 (Process Scale)

Percent Agreement Defined as No Difference and Difference of One Point or Less Between Ratings

	Mother		Father	
	No Diff. (%)	Diff. of 1 pt. or less (%)	No Diff. (%)	Diff. of 1 pt. or less (%)
Global	78	100	56	100
Exper.	83	100	56	100
Relat.	83	100	56	100
Prob. Expr.	66	100	56	100
Pers. Const.	73	100	33	94

The judges displayed more accord in their appraisal of the mother. Global ratings of her were identical in fourteen of the eighteen segments. Sub-scale ratings of the mother with the exception of Problem Expression reflected the same extent of agreement between the judges. The mother was the most active participant in the interview and showed definite movement on the process continuum. Process ratings assigned to her ranged from stages two to five. Although this grouping of ratings may be too coarse to permit expression of reliability in terms other than percent agreement (Brown, Lucerot, Foss; 1963) a Pearson correlation coefficient was computed between the judges' process ratings of the mother in order to compare our results with other studies using the Process Scale. The r of .88 obtained is higher than most coefficients previously reported.

The range between global ratings of the father was so restricted that a Pearson correlation coefficient was not computed. Both judges rated his over-all process level at Stage two or three in all segments. A few ratings of Stage four were made on two of the sub-scales, Problem Expression and Personal Constructs, but all other sub-scale ratings were also Stage two or three.

Despite the fact that the judges consistently assigned one of two ratings to the father's behavior, the per cent of perfect agreement between their ratings was not high. They agreed that the father's behavior during the interview earned a low process rating, but were uncertain as to what stage it most typified. The judges were able to discriminate between Stages two and three in their evaluation of the mother, but not so with the father. He posed a more difficult problem because he did not speak as much nor exhibit the apparent self-involvement of the mother. He also was inclined to invite attention to his wife rather than himself; an invitation that the judges no doubt accepted.

FAMILY INTERACTION SCALES

The Family Interaction Scales (FIS) were developed recently by Jules Riskin (1964) at the Mental Research Institute of Palo Alto Medical Research Foundation.

Construction of the Scales was based on a conceptualization of the family as a system with the behavioral patterns of its members resulting in a basic style of family interaction. From this style of interaction, identifiable in small samples of behavior with the FIS, valid descriptions and predictions reportedly can be made about interpersonal relationships within the family.

Riskin applied the six scales with apparent success in a study of families with three or more children. These included families without psychiatric problems, families with a neurotic member, and families with a schizophrenic member. Each family participated in a semi-structured interview in which they were asked to plan something they could do together as a family. The interviews were tape-recorded and working from a typescript, scores were assigned to two segments. Each segment contained 76 speeches. The total time analyzed in each of the interviews ranged from four to six minutes.

The FIS were designed to permit relatively simple scoring. The recorded scores, and not the content of the interview, were used in making interpretations about family interaction. A brief summary of the FIS is presented below.

Clarity - refers to whether or not a speech is clear to the rater regardless of its clarity to any of the interview participants.

Topic Change - when the topic of a speech is different from the preceding speech it is noted and judged to be an appropriate or inappropriate change.

Committtment - concerned with a person taking or avoiding a definite stand on an issue.

Agreement - refers to explicit agreement or disagreement with the person to whom a participant is speaking.

Intensity - any change in affect whether an increase or decrease.

Relationship - deals with the attitude the speaker displays toward the person to whom he is speaking, friendly, mutual or attacking.

One modification was necessary for the use of these scales with the interview under analysis. Riskin in his work scores each "speech", but does not explicitly define this term. According to his directions and illustrative material a "speech" appears to be the vocal utterances of one person directed to a particular audience. A "speech" terminates when the speaker or person(s) spoken to changes.

The length of many of the individual speeches in the interview analyzed in this study clearly indicated the need to break the utterances into smaller scorable, yet meaningful units. To do this the concept of SHIFT was employed. In this work a speech unit continued until a shift occurred. A shift was defined by: 1) a change in speaker, 2) a change in person(s) spoken to, 3) a change of topic, 4) a change in temporal focus, 5) a change in focus from external reality to an internal feeling or reaction.

Following practice with other interviews the two scorers were able to reach quite acceptable agreement (88%) in dividing the transcript into such speech units. Differences were discussed and mutually acceptable decisions reached. In this manner the material was broken into scorable speech units. Each three minute segment contained approximately 37 such units. This figure compares with Riskin's own figure of 76 speeches per 2 or 3 minute segment. Had the longer speeches in this data not been broken down into these speech units the disparity between number and therefore length of scored unit (speech) in this work and Riskin's would have been even greater. Riskin uses family groups of much larger size than the husband-wife-therapist triad of this interview, certainly contributing to shorter speeches.

Each speech unit was then scored on all of the appropriate scales according to Riskin's instructions. It should be noted that Riskin interprets the scores of two 76 speech groupings in a clinical, dynamic, flow-sheet manner, while for the present research purposes the scores were tallied and summed for each of 18 minute segments. He then compares percentages and ratios of a particular family with those of his research pool of families. This research compares what happens within one three-person interview over the time of the interview.

Reliability

Reliability of the scales was measured by the percent of agreement between the scores of judges in five of the segments (Table 1). The measures were satisfactory, but cannot be compared with the original use of the scales because no specific reliability was reported.

Table 1 (FIS)

Per Cent Agreement Between Judges on Five Segments

Scale	Per Cent
Clarity	84
Topic Change	71
Committment	78
Agreement	80
Intensity	84
Relationship	88

Comment

FIS as utilized in this project, yielded a rather meager contribution to the entire study, particularly in view of the time required to define and then score 667 speech units. Many of the findings could be more easily obtained with other scales and techniques utilized in this study. The particular, unique feature of FIS was the opportunity to assess Topic Change. This seemed particularly important and informative in adding to an understanding of why certain other scores changed, both on the FIS and on the other assessment techniques used.

It is important to note, however, that FIS was not developed to assess or clarify a typical diagnostic interview. Rather these scales were designed to "score" family interactions under a specific set of circumstances, those involving the joint solution of a particular problem offered by the experimenter. That is to say in attempting to discover and define typical family relationship patterns Riskin provided his families with a specific job to do and then evaluated the way the family undertook and solved the specific task. He then developed a scoring system to account for what transpired in hopes that from such an evaluation a better understanding of the family could be obtained. Such a procedure is much like developing a set of ink blots and a scoring system to account for how a person approaches and uses those blots. If the entire procedure has the hoped for validity, an understanding of the person (or the family interaction patterns) is acquired which is relevant to behaviors outside of the standardized, contrived diagnostic setting.

Although in this study the FIS was not applied to the type of interview for which it was designed, it is evident that the scoring of speeches according to the proposed categories is not the simple procedure Riskin was attempting to develop. Certain features of the scoring requirements seem to be quite obvious to the developer of the scales, but his frame of reference is not necessarily always that of other potential users of the scale.

DIMENSIONS OF INTERACTION IN GROUP THERAPY

The Dimensions of Interaction in Group Therapy were developed by Lorr (1964) in a recent and rare investigation of the range of interpersonal interactions in group therapy. There have been surprisingly few attempts to analyze what goes on in self-analytic groups. All of the well known techniques for measuring or classifying group interactions are restricted to task-oriented groups. Some of these category systems like that of Bales (1950) are classical, but have limited application to psychotherapy.

The subjects in Lorr's study were members of 45 therapy groups from Mental Hygiene Clinics of the Veterans Administration. The subjects were rated on a large number of behavioral statements which were then factor-analyzed. Based on their statistical relationship to each other, eight clusters of statements or factors emerged from the analysis. The relatively high number of factors reflected the complexity of group therapy and indicated that at least seven or eight dimensions of interpersonal behavior are necessary to describe the process adequately.

The dimensions extracted, and the statements which define them, were used in this study to assess the family interview. Before doing so, however, certain changes were required. Two of the dimensions, Withdrawal and Disruptive Behavior were eliminated because the statements defining them were related to psychotic behavior and required direct observation for rating. The statements were not appropriate for reasonably normal families nor could they be rated from a tape recording of an interview.

Another modification was the addition of a factor based on items in Lorr's Group Therapist Techniques Inventory (1964). This factor was called Therapist Role and was added to account for the actions of the therapist.

A description of the dimensions is presented below.

Hostility - Refers to angry, sadistic and provocative acts. Includes such specific behavior as launching an angry verbal attack; speaking disdainfully or in a self-important manner; rejecting a bid for friendship, etc.

Attention-Seeking Control - Related to dominance and consists of monopolizing the group's attention, interrupting, making speeches, competing for attention, etc.

Leadership Role - Related to one of Bales' categories. Indicates the assumption of authority which is often manifested by seeking or giving factual explanations and proposing solutions to group problems.

Supportive Role - Also related to one of Bales' categories. It is characterized by encouraging, friendly comments that create group harmony and make the members feel better.

Succorance - This dimension includes overt bids for help like seeking emotional support or sympathy. Voicing complaints and expressing fears also are included.

Submission - Pertains to appeasing, deferring to, and expressing inferiority in relationship to others.

Therapist Role - This dimension is defined by actions traditionally associated with a psychotherapist. It includes making interpretations, clarifying feelings, etc.

All of the dimensions were defined by either six or seven statements. The statements were restricted to overt behavior occurring within an interpersonal context.

Procedure

Two clinical psychologists using both a tape and typescript of the interview rated all the participants after each three-minute segment.

The ratings were made independently in two steps. First, each behavioral statement was judged as having occurred or not occurred. Second, global ratings on the seven dimensions were then assigned to each participant. The ratings represented the amount or degree of a particular dimension that a participant manifested during the segment.

This judgment was based on the following considerations: how often the behavior was expressed (frequency); in how many different ways (pervasity); and how strong was each expression (intensity).* Ratings were made on a five point scale ranging from zero to four.

Reliability

Inter-judge reliability was assessed by measures of percent agreement (Table 1). A total of 378 ratings were made and agreement defined as no difference between the judges' ratings was 72%. Perfect agreement was lowest on Leadership Role and Attention Seeking and highest on Succorance and Therapist Role. With respect to the participants, the judges assigned the least number of identical ratings to the father and the most to the therapist.

Agreement when defined as a difference of one point or less between the judges' ratings was 96%, and did not vary significantly according to the dimension or participant involved.

Table 1
(Group Therapy Dimensions)

Percent Agreement Defined as No Difference and
Difference of One Point or Less
Between Ratings

Dimension	No Diff. (%)	Diff. of 1 pt. or less (%)
Hostility	72	93
Attn-Seeking Control	57	94
Leadership Role	52	100
Supportive Role	72	98
Succorance	83	94
Submission	74	98
Therapist Role	91	96

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* Use of frequency, pervasity and intensity as guides for the global ratings was suggested by a study by A. Meehl and B. Glueck.

INTERACTION CHRONOGRAPH

The Interaction Chronograph, developed by Chapple, is a highly regarded technique for assessing personality and interpersonal relationships from temporal measures of communications. It is based on the assumption that each individual has a characteristic rate and pattern of interaction, adaptable within limits to other individuals, and that such characteristics are important in personal and occupational adjustment. Just as the individual has his state of equilibrium, so does a group. The individuals in a group adjust their interaction rates to each other, and as they separately attain equilibrium, the group attains it likewise. A disturbance which upsets the equilibrium of one member will affect the others also (Chapple, E.D. and Coon, C.S.; 1942). A group in equilibrium will show constant rates of interaction, and if a disturbance takes place, the rates will tend to return to their previous level.

When applied to an interview, the Chronograph, which is essentially an electronic stop watch and computer, permits analysis in time units of the interaction between interviewer and interviewee. The focus on temporal factors avoids contentual questions such as "what the person said", or "what did he mean by what he said". The data consists of speed of talking, silences, pauses, interruptions, etc.

The behavior of subjects in an interview can be recorded on the Interaction Chronograph from direct observation, audio-tape or audio-visual tape. The recording is usually made by manipulating three keys. One of the keys manipulated is a signal marker for activating an electrical counter. The two remaining keys are designated, one each, for the interviewer and interviewee. A new observation is indicated by pressing the signal key, then the observer keeps one finger poised on the interviewer's key and another on the interviewee's key. Each time the designated person starts to act by talking (measurements could also be made of various gestures) the observer presses his key and keeps it down until the action comes to an end. The actions of both persons are recorded simultaneously and a pattern of their interaction is available.

Information about ten interaction variables can be obtained from the Chronograph. Several of these are listed below.

Units: This counter provides a frequency count of the actions of a subject. Each time he is active, and the observer presses his key, the unit counter adds one unit. A cumulative record is made of the number of times the subject was active during a period designated by the signal counter.

Tempo: Records the duration of each action plus its following inaction in a single measure. This provides an index of how often one starts to act and the duration from one action to the next action.

Activity: The number of actions are counted minus the silences. This indicates how much more active a person was than he was silent.

Synchronization: A frequency count of the number of times A interrupted B or failed to respond to B.

Dominance: A frequency count of interruptions (double action with both keys down). It provides a measure of the relative frequency with which one person, A, outtalks the other person, B, when there has been an interruption. The counter adds one if A dominates B in a double action, or subtracts one if B dominates A. A positive score indicates that A was more dominant than B in their exchanges.

In this study measurements of the interactions among three persons were recorded from an audio-tape. The duration of each action was computer processed to produce a print-out giving in one-one hundredth minutes the sequence of interactions. From this was obtained a record of units, duration of action, etc.

Dozier Thornton, Ph.D.

INDEX OF INVOLVEMENT

The published scales selected for the quantitative analysis tapped a variety of dimensions of the verbal interaction. As noted previously, however, none of these scales dealt with the subject matter in the interview in a way that revealed what the participants discussed. The emphasis appeared to be upon how or when something was communicated, and what this implied with regard to a specific internal state or interpersonal relationship. In order to achieve a more complete account of what transpired in the interview it was decided that the topical content of an individual's communications, and its probable meaningfulness to him, should be recorded. For this purpose a scale was constructed which we refer to as an Index of Involvement.

The Index combines two previously reported approaches to content analysis. It consists of categories of topical characteristics arranged on a continuum of self-involvement. The idea for such a continuum was suggested to us by one of Steinzor's methods of categorizing intentions. The topical characteristics which make up the continuum were adapted from Lennard's (1961) categorization of role systems.

Lennard identified four role systems in which a patient in psychotherapy participates; two types of patient roles, family and specific social systems, and the self. In a limited sense these systems were also conceived as a framework for organizing the subject matter of the interview. In this study, our goal of discriminating among degrees of personal involvement required a refinement of these systems. Briefly, the Index is an attempt to describe what a person talks about by recording whom he talks about, i.e., the interpersonal interactions referred to in his communications. Interactions in an individual's statement or series of statements were coded to twelve categories, e.g., self-family, self-spouse, etc. The categories were not conceptualized as role systems, but simply consisted of the interpersonal interactions most frequently mentioned by family members in the act of explaining themselves and their problems.

After the categories of interaction were established they were ranked by the research group in order of their implied self-involvement. References considered to signify the most personal involvement were those made to self-self and self-therapist, interactions. The least personal were references to society-family member and society-society. The latter category pertained to interactions among non-family members.

The research group's judgment about which references denoted the most self-involvement was confirmed by the judgments of four clinical psychologists who were not members of the research group. They also ranked the twelve categories of interpersonal interaction according to probable self-involvement. The similarity among the orderings of the group and four judges was tested by Kendall's W. The high degree of agreement is reflected in a coefficient of concordance of .85.

The next step in developing the Index was taken to provide a means of arriving at a score of self-involvement so that different segments of the interview could be compared. The original twelve categories of interpersonal interaction were divided into six categories with each pair representing one point on a six-point scale as shown in Table 1. The grouping of the categories was guided by the sum of their rank orderings. All of the interpersonal references within each segment were then scored and average scores of personal involvement for each family member in every segment were obtained.

Table 1
(Index of Involvement)

Scores Assigned to Different Interpersonal References

Score	Reference
6	Self-Self Self-Therapist
5	Self-Spouse Self-Child
4	Self-Family Self-Society
3	Family-Family Family-Child
2	Society-Family Society-Child
1	Society-Family Member Society-Society

The contextual unit from which interpersonal references were scored was each statement or series of statements made by an individual before somebody else began to speak.

All but two of the three minute segments in the interview contained more than one contextual unit for each family member. However, most of the units included a reference to only one type of interaction. In other words, the family members usually spoke more than once during each segment, but their speeches were devoted to one type of interpersonal interaction.

Because the Index was designed to meet a specific need in this study, and is not presented as a valuable tool for analyzing other interviews, a formal test of the reliability of scoring was not made. It is worth noting, however, that identifying the necessary interpersonal references was relatively easy with the use of a typescript. Complete sentences invariably had some point of interpersonal reference. Unclear speech and very inferential references were not scored. Also not scored were additional references to the same kind of interaction occurring consecutively within one contextual unit, e.g., a monologue in which the wife said different things about her relationship with her husband. Similar references were scored more than once in a unit if they were interrupted by an allusion to another relationship.

C. The Family

From the clinical standpoint. all of our families that had inert interviews showed no change. Of those that had active interviews, some showed change and others did not. Active interviews were those that contained expressions of strong feelings and considerable interaction among the participants.

The particular family chosen for this study participated in five rather inert interviews. The first half of the sixth interview resembled the other five but the latter part of the interview appeared more active. The sixth interview is analyzed in this report.

The family is an educated, middle-class, upwardly-mobile Negro family. The family group consists of five members; the father, age 40, is a rather dark skinned Negro who was formerly a jazz musician and a music teacher, and is now a student in graduate school. He is the second husband of the mother. The mother, age 39, is an attractive, light-skinned Negress and a teacher. Her two children by her first marriage are Tom, age 16, a student in a vocational school, and Jack, age 14, the referred child. Susie, age 3, is the child of the present marriage. Referral was made because of "under achievement" in school by Jack following a change of schools.

The interviewer for the family is a psychoanalyst, Dr. Morton Johan, and the interviewer sequence was total family, sibling group, father, referred child, mother and finally the parents.

According to the Interviewer Reports, the main features of the first five interviews were the mother's dissatisfaction with the 14 year old son, and the discrepancy between the high expectations of the mother in regard to the family and the more relaxed attitude of the father. The Interviewer Report for the sixth interview is presented in Appendix 1.

Another psychoanalyst, Dr. Moises Wodnicki, made a clinical study of the taped interviews. His impressions agree with those of Dr. Johan.

Comment on the family dynamics is presented in the next section.

D. Results

We shall first show, briefly, how the process of the interview can be described with the use of some Steady State references.

Quantitative results will then be presented, instrument by instrument, in order to retain the individuality and flavor of each analysis at the cost of unevenness in presentation.

The interview will then be described in terms of Information, Relationship and Decision. The similarity between this model and one of the scales will be discussed.

Graphic illustrations of scoring patterns, the relationship between the manifest content of the interview and the Interaction Chronograph, plus comment on the family dynamics will appear at the end of this section.

Steady State

There is an opening phase in the interview in which the stage is set, the characters introduce themselves and the tempo is established. The mother takes charge, which she generally maintains throughout the interview. The mother and father tend to talk to each other, and the interviewer occasionally intervenes by asking questions.

Through the next two segments the mother and father continue talking to each other and the interviewer is silent. He comes back in segment four and creates a disturbance by questioning the mother directly as to what she had done, and what her feelings were. The mother and father then regulate things by giving innumerable instances of mother's high expectations and father's low expectations, and thus shut out the interviewer completely for the next 17 minutes.

Roughly the first half of the interview then constitutes a steady state. The graphs of the scales show only minor fluctuations from mean levels, and everything is well regulated.

The interviewer then causes a disturbance by moving from the realm of information and noting that the parents act like a prosecuting and defense attorney. He points out that the mother is afraid, particularly about trends toward delinquency.

This disturbance starts in the ninth segment but by the thirteenth segment the interview is again under control, with return of the graphs to the first half norms and the interviewer again shut out.

In the fourteenth segment this need to exclude the interviewer has waned, as indicated by increased silences, and the interviewer comes back directly to the relationship: "How do you feel about this talk today?" They again react with regulatory measures, and the interviewer points out how mother controls father in the interview with her hushed "quiet, dear".

There follows an interesting mixed phase in which mother completely dominates the interview, but also opens up the Negro-White problem and her intense feelings about it. This leads to less use of regulatory measures and a very earnest sharing of feelings with which the interview comes to a close.

PROCESS SCALE

The average process ratings assigned to the couple are compared in Table 2. The difference between the average ratings of the mother and father is significant at the .01 level.

Table 2
(Process Scale)

Means and Standard Deviations of Process Ratings

	N (Segments)	M	SD	t
Mother	18	3.22	.62	
Father	18	2.72	.30	2.9*

* (Significant at .01 level)

Segments rated at stage four or higher are portions of the interview in which clear-cut positive movement occurred. Although stage four has not been generally recognized as a "turning point", an analysis of the Scale reveals that the most important changes in all Strands are described at this point. At stage four the person finally establishes, to some extent, a close relationship with the therapist; looks inwardly to examine his feelings; explains rather than defends his perceptions; and details his own reaction to a specific problem.

The two judges rated the mother at stage four or above in four of the segments, but ratings of the father were never above stage three. A peak in the ratings is noticeable in the ninth segment as a result of movement on the part of the mother. This positive change was temporary, however, and another high rating was not assigned until the sixteenth segment. Ratings of the mother in the last two segments were the highest assigned, reaching a point more than two standard deviations above her mean rating.

In general, the differences between the couple's ratings identify the mother as being more therapeutically responsive. According to the Scale, it is also probable that for her the last nine minutes of the interview represented an experience of considerable moment.

Comment

The Process Scale is based upon a formulation of process in a particular type of individual psychotherapy, client-centered. Theoretically, this approach makes only one critical demand of the therapist; to create in the patient a feeling of being accepted or "received". Applying such a Scale to a diagnostic family interview conducted by a psychoanalyst in search of information would be expected to entail countless procedural problems and produce ambiguous results. This was not the case. The judges had little difficulty rating the participants and the dimensions included in the Scale proved surprisingly appropriate. From the findings illustrated in Figure 1 relevant inferences can be drawn about the course of the interview and its impact on the persons involved.

Despite the usefulness of the Scale in this study certain adjustments are advisable when it is applied to a situation for which it is not designed. Before assessing a family interview it is wise for the judges to agree on how they are going to rate a family member who does not speak during a segment of the interview. Is he unrateable or does the theory underlying the Scale imply that he be assigned the rating he received in the previous segment? In this study the father spoke only once in two of the segments near the end of the interview and the process ratings assigned were determined by the inferred meaning of his silence. This may be a questionable procedure in some interviews and it would probably be better not to rate a family member when he is a non-participant.

It also would be helpful to assess the behavior of the therapist (or interviewer) when he is not committed to a client-centered approach. Higher process ratings can be effected by skillful therapeutic interventions that elicit expressions of feelings, inward references and even recognition by the person of his own contribution to his problems. This often represents forced, apparent progress that is not maintained, e.g., the mother's behavior in the ninth segment. A concurrent evaluation of the therapist revealing how directly he influenced a process change would permit identification of the change as therapist-induced, and a lower rating might be warranted.

The Scale could be modified in other ways to make it more suitable for analyzing family interviews. The fact remains, however, that it was applicable in this study without alteration. The best explanation for this is that the process of a psychiatric interview with a family is surprisingly similar to a psychiatric interview with an individual. The judges' task was made easier by frequent interactions between the interviewer and one family member. The content of these interactions was not unlike the self-analytic behavior typical of individual psychotherapy.

Another characteristic of the interview that was remindful of individual psychotherapy was the manner in which the participants talked about themselves as a family. They often referred to the family as a unit and the discussion resembled a self-rather than group-examination. They disclosed private information about the family, compared themselves with other families; related important beliefs and values; and, in general, attempted to explain what it is like to be "we".

Thomas P. Mellett, Ph.D.
Dozier Thornton, Ph.D.

FAMILY INTERACTION SCALES

The scales most sensitive to changes in the speeches of the family members were Committment, Clarity and Intensity.

The most revealing scale, however, was Topic Change. This reflected changes in the behavior of the interviewer. A change of topic by the interviewer usually preceded and appeared to precipitate changes in the speeches of the family members.

The interviewer scored high on Topic Change from segment nine until the end of the interview. The action and reaction of the family members in the last half of the interview was interpreted as linked to this interviewer activity. The father's percentage of unclear speeches was less than half as great after segment nine than it was prior to segment nine, while the mother's percentage of unclear statements multiplied twelvefold. With regard to intensity (affect), father's percentage slipped slightly after segment nine, while the mother's percentage of speeches with increased intensity almost doubled.

Immediately after the interviewer began changing the topic, both parents showed changes in the Committment scale. The father made the most number of committments during segment ten, and the mother during segment eleven. The mixed reaction to the interviewer at this point in the interview is indicated by the fact that both the mother and father also avoided the most committments during segment ten.

Richard Jentsch, Ph.D.
Mary Jane Snew, Ph.D.

The judges rated the mother high on Hostility, Attention-Seeking Control, and Succorance. They rated her low on Supportive and Therapist Roles. She emerged as a person who frankly admitted the need for help, but in so doing was overtly hostile and attempted to dominate the interview. She made no attempt to support or encourage others.

The judges rated the father zero throughout the interview on Therapist Role, but relatively average on other dimensions. In certain sequences of segments he was rated high on both Leadership Role and Submission. In comparison with the mother, he was more submissive than dominant; more supportive; and expressed less need for help.

The interviewer was rated high on Therapist, Supportive and Leadership Roles. The judges rated him zero on Hostility, Submission and Succorance. He did not participate during parts of the interview and was not rated. When he did participate he was usually in control of the interview. His high ratings on Therapist Role indicate that his probable goals in the interview, in addition to collecting information, included an attempt to change the family members.

Ratings of all participants on all dimensions showed significant shifts during two periods, segments nine to twelve, and fifteen to eighteen. In the middle of the interview (nine to twelve) the interviewer assumed control of the interview; the mother became more hostile and succorant; and the father also became hostile. Prior to this point, the mother and father were vying for leadership, with the father frequently submitting.

In the critical period at the end of the interview (fifteen to eighteen) the mother and father again stopped what appeared to be a struggle for leadership and the interviewer took charge. The interviewer was interpretive and supportive; the mother became succorant, but remained hostile; and the father withdrew.

Thomas P. Mellett, Ph.D.
Thomas F. Dyehouse, M.S.
James P. O'Donnell, Ph.D.

INDEX OF INVOLVEMENT

A segment score of 4.0 or above was considered indicative of significant self-involvement since that would be the minimal score obtained if all references in a segment were restricted to those involving the speaker as an individual rather than as part of a group, e.g., self-therapist, self-society, etc.

The mother showed no significant self-involvement until the ninth segment. An examination of the most frequent references in the first eight segments reveals her beginning the interview with a discussion of family-society (we-they) interactions; following her husband's lead into a discussion of family-child (he-they) interactions; then focusing most often on her dealings with persons outside the family, self-society (I-they). All of the first eight segments were scored below 4.0

Segment nine was the first time that her score reached significance and was elevated because of references to self-spouse (I-he). Her scores were lower in the next two segments, but went beyond 4.0 in segment twelve. A few self-self (I-I) references occurred in this segment which probably were elicited by the therapist's intervention. The following four segments, thirteen through sixteen, were not significant.

Segment seventeen received the highest score, and was more than two standard deviations from the mean of all segment scores. At this point in the interview she talked about her interactions with society, self-society, but made several references to self-therapist (I-you) and self-self interactions. Segment eighteen was also scored significantly high because of self-self references, but the effect of these references was partially offset, as they were in segment seventeen, by frequent references to society-society (they-they). The mother's tendency to combine very personal and impersonal references prevented the last two segments from being scored extremely high.

Whereas, the mother scored significantly in four segments of the interview, the father's communications indicate a significant self-involvement in only two segments, four and ten. In the first three segments, the father scored particularly low because of frequent references to his wife's and child's interactions with society. Occasionally he referred to how his child got along with the whole family but, for the most part, he excluded himself. In segment four, he scored the highest (4.2) as a result of talking about his own relationship with the child and making a self-self reference.

> Segment ten reached significance primarily because of self-spouse references. During this segment he did not talk about any family member's dealings with persons outside the family, and did include himself in a discussion of intrafamily relations.
>
> In general, the mother talked more often about her attitudes toward herself, and reflected about being the kind of person she perceived herself to be. These self-self references were typical of communications in individual psychotherapy. They appeared frequently near the end of the interview, and could reasonably be expected to escalate her mean score significantly higher than that of the father.* However, the averaging effect of her comments about society deflated her scores considerably. Her involvement as measured by the Index approximated that of her husband despite the fact that he was not inclined to talk about himself as an individual.
>
> Thomas P. Mellett, Ph.D.

We might remark somewhat parenthetically that early in this study we paid a good bit of attention to affect as a flag that indicated change in the vicinity. We later came to feel that displays of various affects, while usually accompanying change, were unreliable in indicating change. Thus in this interview periods of "positive affect" and laughter did not seem to indicate a change, while hostile affect did, as indicated in the analysis of the interview according to Information, Relationship and Decision.

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* The mother appeared more involved in the interview than the father, but the difference between their scores did not appear to be statistically significant. Although no formal test of the reliability of the scores had been made our curiousity and confidence regarding them made it worth the effort to check this impression. A test of significance between the mean scores of the couple resulted in a t of 1.4. A t of 2.7 was required for significance at the .01 level.

Information, Relationship and Decision

Summarizing the interviews in terms of Information, Relationship and Decision (IRD) revealed the importance of the ordering of these factors. When they occurred in a certain sequence the significant events in the interview appeared to form a spiral process.

Information crucially related to the identity of the participants had to be expressed and accepted before a Relationship was established. Information then exchanged in the context of a Relationship supplied the basis for Decisions. The verbal elaboration of Decisions then became Information about new identities which led to a new Relationship and new Decisions.

In the sample interview the first eight segments consisted almost exclusively of information exchanges. In the ninth segment the interviewer, by means of a somewhat hostile topic change, attempted to elicit a relationship. The attempt was blocked, primarily because it was premature. The family members had not yet communicated information they considered critically related to "who we are".

Following the relationship comment of the interviewer, more material on the information level was expressed by the family members. This continued despite the fact that the interviewer persisted in his attempt to elicit a relationship. All of the interviewer's attempts were blocked effectively until the last four segments. At that point, one of his interventions provoked the mother into expressing information she considered central to the family's identity. The interviewer's response was one of affirmation and a relationship was formed.

The interviewer soon followed with the same type of apparently hostile response that was not fruitful earlier in the interview. This time the family members did not block him. Apparently they did not perceive his comment as a characterization of people who might not be acceptable, but as an expression of his understanding of people who were acceptable. At this point in the interview, a change in the family began to occur.

Although all of the scales contributed to this interpretation of the interview process. The Index of Involvement and especially the Process Scale are the most closely related to IRD. When the scales were selected we assumed that no single scale would include the three categories nor be neatly restricted to one. Combined, however, the scales were expected to measure, somewhat redundantly, important dimensions in all the categories. Our assumption regarding the limitations of the individual scales was valid for all but the Process Scale.

The principal strands of the Process Scale do assess dimensions within the three categories we proposed. The sequential arrangement of stages in the Scale also is similar to our ordering of Information followed by Relationship and then Decision. Although we were not familiar with Rogers' conception of the process of individual psychotherapy, it has much in common with our summarization of what transpired in the most effective family interviews. The similarity between the Process Scale and IRD is outlined below:

Information - Represented in the lower stages of the Problem-Expression and Personal Constructs strands. Stages one to four are points on a continuum ranging from a report of no significant information about the self, to a detailed explanation of private problems, attitudes and beliefs.
Relationship - Represented in all stages of the Relationship and Experiencing strands.

The Relationship strand pertains to the distance and mutual acceptance between patient and therapist. A close personal relationship is established at stage four.

The Experiencing strand pertains to the distance between the patient and his inner experiences. As the patient-therapist relationship evolves so does this special type of self-self relationship. At stage four the patient is no longer distant from these inner experiences.
Decision - Represented in the higher stages of Problem-Expression and Personal Constructs strands. From stages four to seven the patient does not describe problems and beliefs as often as he reports the degree to which problems are being resolved and constructs altered.

When Decision is involved the temporal focus of the patient's comments is usually the present in terms of the future - "what I am becoming". This is in contrast to Information when the focus is usually the past, or the present in terms of the past - "what I have always been".

It should be noted that in some family interviews the exchange of information leading to a relationship, then decision did not always include the therapist as a principal participant.

Some couples by becoming more open with each other, also grew closer and changed.

The manifest activity of the interview will now be considered in greater detail, and in relation to the Chapple Interaction Chronograph.

Temporal Correlates of the Manifest Content

Segment One. The parents are carrying on a subdued conversation which they continue as they enter the room and the interviewer calls them to order saying: "Well, we are on the air". They continue the discussion about a financial matter, an obligation owed them by a friend. The interviewer asks some information questions, then attempts to generalize this in a question as to how they typically handle such matters. They fail to take this cue and continue talking about someone else's troubles.

The Chapple graphs clearly reflect the dominance of the mother in most of the segments.

Segment Two. There is a continuation of the family discussion between mother and father over the topic of the poverty of some people with a great deal of back-and-forth interruption and laughter between mother and father with a single brief question of information by the interviewer. Then after a moment's silence the father introduces the subject of Jack's poor grades. The mother continues this with the fact that he is now doing well in most subjects, but failed in Spanish.

The Chapple scale indicates the marked dominance of the mother in this segment, talking about 75% of the time while the interviewer drops to a single 2/100 minute question. Despite the joviality and laughter between the mother and father in this segment the sharp increase of silences indicates tension.

Segment Three. Discussion of Jack's poor school work continues between mother and father until father interrupts by questioning mother about giving permission to a teacher to spank Jack. Mother pictures this as a complete misunderstanding, and the interviewer towards the end of the segment interrupts and confronts her with "What had you said?".

The Chapple again shows mother's continuing monopoly of time, including one monologue of 110/100 minute and it is at the end of this speech that the husband interrupts with the aggressive question about permission for corporal punishment. There then followed several interruptions of each other by mother and father, and silence is reduced almost to zero. The interviewer talks only 4/100 minute.

Segment Four. There is a good bit of confused interaction in this segment with the interviewer attempting unsuccessfully to clarify just what the mother had said to the teacher, then switching on to the less specific question of their feelings about corporal punishment. The mother is evasive about her "pun" to the teacher, and father moves in to talk about helping Jack with languages and pronunciation. The mother interrupts to indicate that it is Jack's attitudes towards the teacher and towards herself that are his failing.

The Chapple shows a sharp rise in the interviewer's activity with a corresponding decrease in the mother's activity. Silences drop almost to zero and there are a good many interruptions, especially by father.

Segment Five. Father begins by expressing his identification with Jack and his own relationship as a student to music teachers. He continues for some length despite mother's attempt to interrupt, and she finally fully interrupts with "Let me get a word in". She then talks at length about Jack's attitudes, then after several interruptions by father, she holds the floor criticizing Jack for his failure to pay Tom a debt and indicating that Jack needs therapy.

The Chapple reflects the very high activity of the mother and the complete absence of any activity on the part of the interviewer. Mother interrupts father quite frequently and there are almost no silences. Father's first oration occupies 68/100 minutes, and mother follows with a monologue of 76/100 minutes, and then there is a period of interrupting each other, then the mother holds forth for 193/100 minutes.

Segment Six. Mother continues to complain about Jack's attitudes, how he outwits his older brother Tom, manipulates him to his own advantage, cheats him when they play cards and refuses to accept his responsibility in any way to the family. Father continually puts in disagreements with this and he emphasizes that the mother is overly concerned.

On the Chapple mother continues to show her dominance and the interviewer again has a zero score. The interchange between the mother and father is rapid and brief instead of the prolonged monologues of the previous segment. There are many times when both are speaking and there are practically no silences. What looks like competitiveness between mother and father might really be co-operation in order to exclude the interviewer.

Segment Seven. The father interrupts mother and defends Jack by saying that Jack is able to work out some of his own problems with help. Mother talks him down and then continues a long recital of Jack's irresponsibilities, his beginning many enterprises and petering out on them.

The Chapple shows mother's monopoly rising to 86% and her continuous holding of the floor for 249/100 minutes. Silence is practically zero and the interviewer's contribution is zero.

Segment Eight. The father makes another attempt at labeling Jack's behavior as transitory and something he will outgrow, but the mother brushes aside this and continues her repetitious harping on Jack's shortcomings.

The Chapple again shows the marked domination of the interview by the mother. There are many interruptions in the early part of the segment then mother continues for 78/100 minutes, a few more interruptions then she holds for 189/100 minutes despite father's attempts at interruption. The interviewer's voice is not heard.

Segment Nine. The mother and father interrupt each other repeatedly concerning Jack and mother finally says; "I expect more than you do, remember? You are happy with less in performance and I am not." The interviewer takes advantage of a momentary silence to say that the father feels the need to defend Jack despite mother's interruption and goes on to say that he gets the feeling he is hearing the prosecution attorney and the defense attorney. Mother responds by saying she knew he was going to say that and then goes on to lump all nonconformists together, her husband along with the two boys as children who need guidance. The father seems to be thrown off balance for he comes in with a statement that is almost completely unintelligible. Mother recovers the floor to say that they do acknowledge it when Jack does accept responsibility.

The Chapple shows the continued dominance of mother. The interviewer, after having been silent for over 17 minutes, comes in with an 18/100 minute interruption after which the mother again assumes control.

Segment Ten. The interviewer becomes much more active and he presses the mother as to whether her concern about non-conformists is really not concern about being antisocial, and that her high expectations have to do with some tendencies she is afraid of. He then directly asks her: "What are you afraid about?". Both mother and father seem to oppose the interviewer and father becomes concrete saying he does not like the word "alarmed" and mother too interrupts using the word "concerned". The father ends up saying that the boys need working with for good growth and to build strength, but "Let's don't overdo it".

The Chapple shows a very marked shift with the interviewer doing more talking than either the mother or father. There is also a sharp increase in the amount of silence and a sharp drop in interruptions.

Segment Eleven. The interviewer continues to push regarding mother's concern and the mother defends against this by her continuing litany of Jack's misdemeanors and his failure to perform his assigned tasks. They then come to the matter of the way in which father views Jack as merely mischevious while mother views him as manipulative. The interviewer then returns to his underlying theme by asking the mother, "Why are you so worried?". The mother parries this and the interviewer bluntly asks whether it isn't really that she is afraid because Jack is the son of a delinquent father.

The Chapple shows recovery to more representative positions with the mother occupying most of the interview and the interviewer the least. There are a fair number of silences of considerable duration.

Segment Twelve. The mother laughs this interpretation off and the interviewer continues to push saying that the traits she complains about in Jack seem to be the same ones she complained of in her previous husband. The interviewer turns to the father for support, but father defends the mother saying that it is always the mother that has the high expectations and that it is dad's position to support mother. The interviewer continues the exchange with father making the point that she drives the sons because she is alarmed that father makes it too easy for them.

The Chapple shows mother and father to have about an equal amount of activity, both much higher than the interviewer. The duration of silence continues to be considerable. It is striking that the participation in the early part of the segment is exclusively between the interviewer and the mother and in the latter part between the interviewer and father.

Segment Thirteen. The father interrupts this train by turning to mother with a question about the older boy and they then talk about their expectations for both boys, and mother ends up criticizing father for not being on the scene enough.

The Chapple again shows a marked shift with a sharp increase in mother's activity. There is a very rapid exchange between mother and father with much simultaneous talking and almost no silences. The interviewer is practically completely shut out.

Segment Fourteen. There is a good bit of quibbling between mother and father as to how much time father spends with the family, and finally their interviewer changes the subject by asking: "How do you feel about this talk today?".

The Chapple shows almost an equal amount of activity on the part of mother and father and the rise of activity by the interviewer. There are fairly large number of brief interruptions and two rather long silences to change the subject.

Segment Fifteen. The father parries the interviewer's question by saying that they are talking the same as they always do when they are together, and the mother supports this. The father then does on to talk about a specific instance concerning the shortness of the boy's pants, and there is a great deal of laughter on the part of both father and mother until mother shushes father for talking too loud. They continue, but the interviewer interrupts them to point out that she corrects him the same as she does the children.

On the Chapple the father shows a sharp increase in the amount of his activity with a decrease in mother's activity and the interviewer has only a few comments. There is almost no silence and there are a large number of interruptions with simultaneous talking by mother and father.

Segment Sixteen. The interviewer continues the topic of mother's need to keep her eye on the boys and she agrees, then goes on to introduce the topic of the problem of her Negro children in a white world and she continues this with considerable vigor throughout the rest of the segment.

The Chapple shows a marked shift with a long monologue of the mother's occupying almost the entire segment with very little participation by the interviewer or father, with very little silence, and very few interruptions.

Segment Seventeen. The three participants now seem to have different ideas as to where the interview should go.

The interviewer presses for their feelings about discrimination and asks the mother if she thinks her son would be more accepted if he were white. The mother talks about the details of the attitude of some white teachers toward Negro children. The father apparently tries to protect the mother by talking about the differences in dress depending upon the setting, but both the mother and interviewer interrupt him. The interviewer, after recognizing the validity of the problem, then confronts the mother with her feelings of anger, which she confirms. He then goes on to say that she is not only angry at whites, but angry with herself for her need to comply. She confirms this vigorously with: "It's a whole vicious almost futile process, but you keep going through it."

The Chapple shows a high amount of activity on the part of the mother and less activity on the part of both father and interviewer. There is very little silence and a moderate number and length of interruptions.

Segment Eighteen. The dialogue between mother and the interviewer continues with him pressing for expression of her feelings while she continues to talk of the demands of the white world to which she responds with unrelenting effort. He points out how exhausting this is, to which she agrees and the father adds, "Exhausting for the children too". This brings the interview to a close.

The Chapple shows a marked drop in the mother's activity and a sharp rise in the interviewer's activity, while the father is limited to a single comment. There is a sharp rise in the amount of silence in the segment and there are practically no interruptions.

Comments on the Dynamics of the Family

The mother and father in this family show the equality in education and work roles that is the mark of the middle class Negro family. They also show the matriarchal structure that is common among Negro families, and this feature is quite exaggerated in this family. The family, in this respect, appears to be an externalization of the mother's character structure.

Mother's anxiety and her need to exercise unremitting control over her family reflects her fear that a chaotic situation will return if control is not maintained. Presumably the feared chaotic situation goes back to the broken family of her own Southern early childhood.

Security for the mother results from pleasing her harsh superego which is poorly integrated and based upon introprojections of white people's demands. She externalizes conflicts by projecting them upon her family while she identifies with the white's critical superego. She is particularly severe upon Jack who is smart and clever and most closely resembles herself.

The father, out of his own need for controls, does not take a vis-a-vis role with her which would reassure her and protect the children, but rather submits to her as one of the children and thus adds to her burden.

In the last research interview the parents got some insight into how their own anxieties and conflicts between themselves over impulses, conformity and control are projected onto their children, and that these are related to the symptoms of the referred child.

In contacts with a staff member following the analysis of this interview the mother and father behaved differently. They shifted from attempts to sell their viewpoint to attempts to explore their viewpoint and its origins. In a follow-up call several months later they indicated no need for further clinic services.

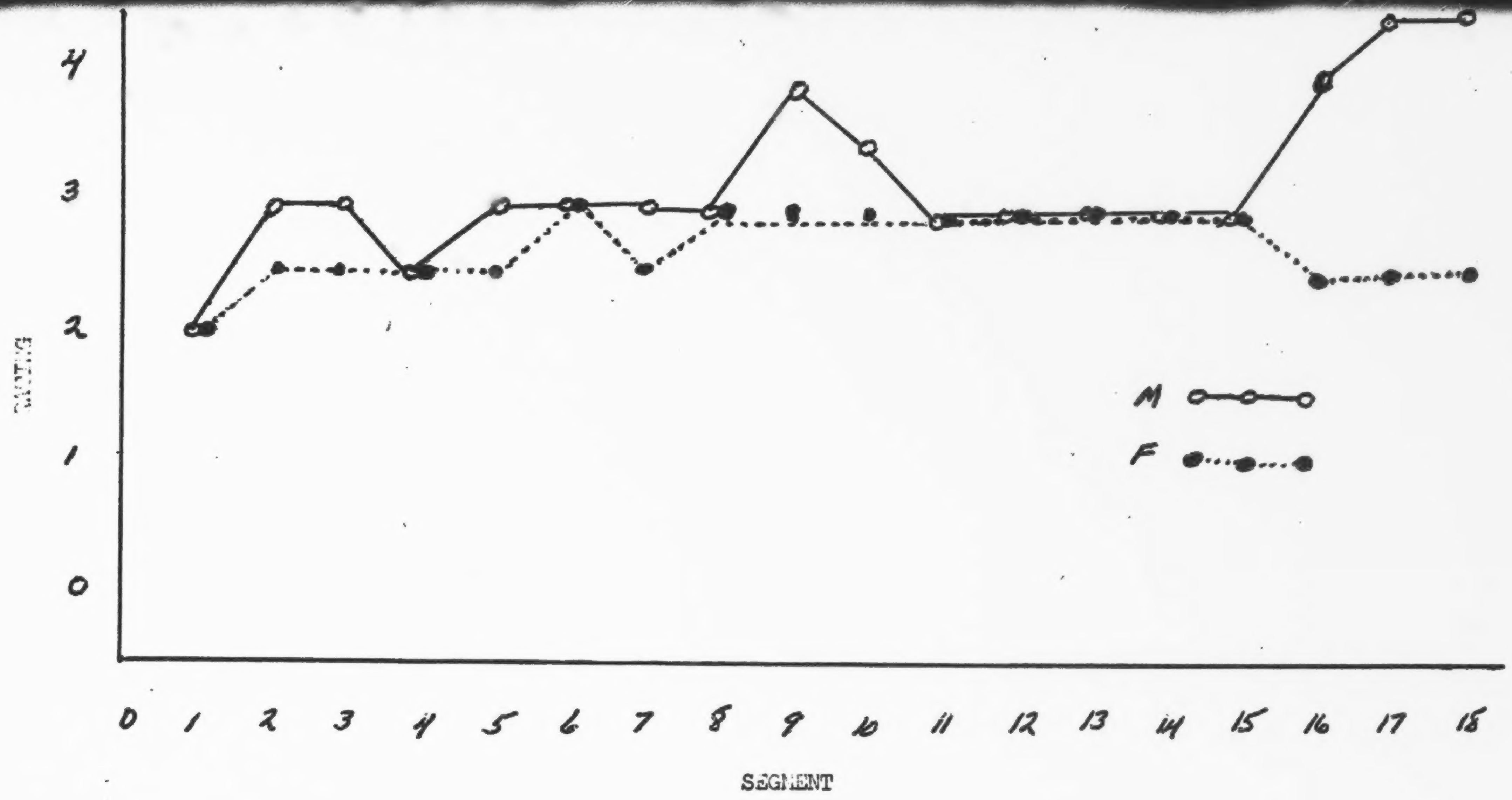

Figure 1. Process Scale. Global ratings assigned to mother and father.

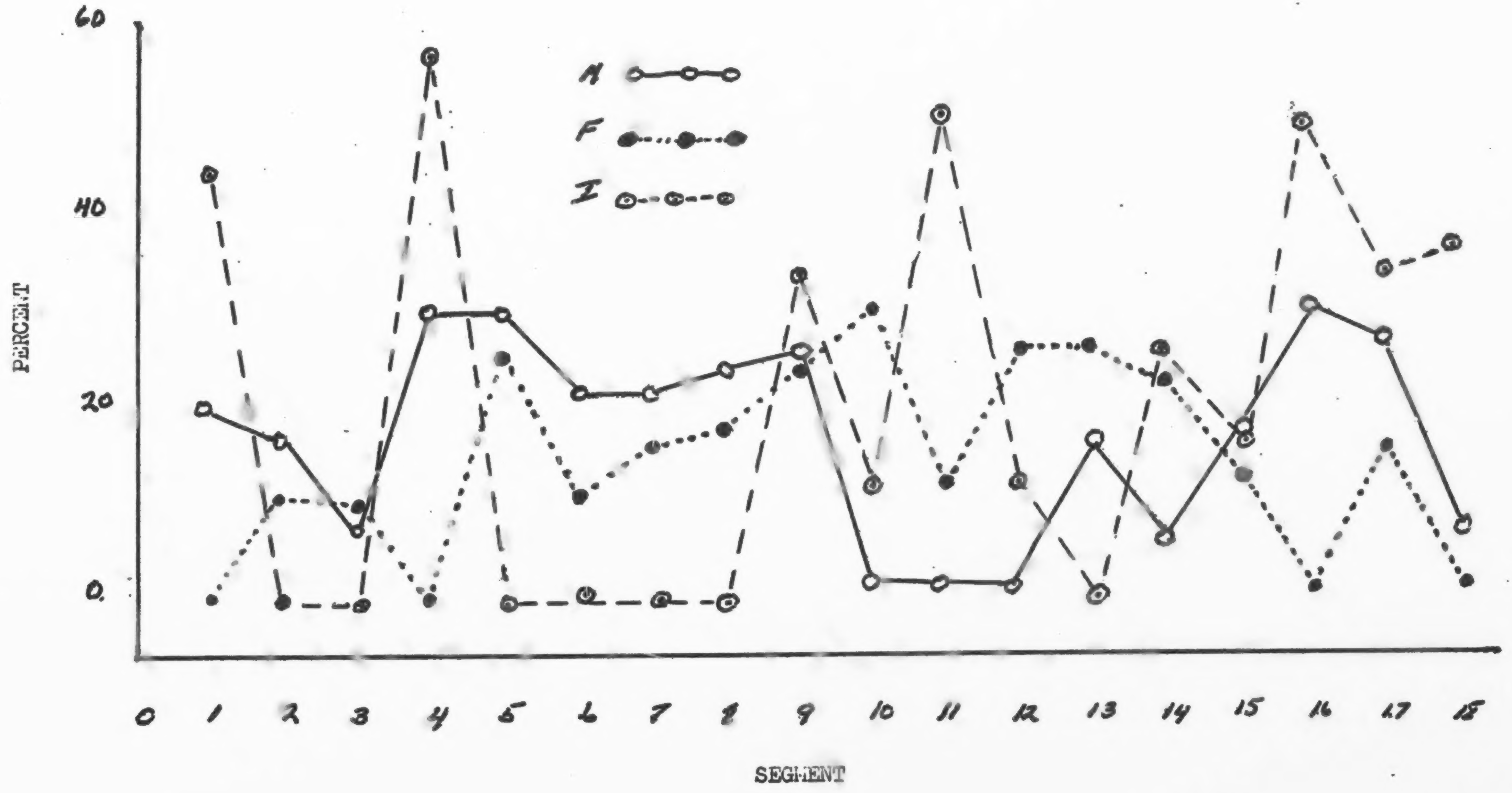

Figure 2. Family Interaction Scale. Percent of speeches scored as Topic Changes.

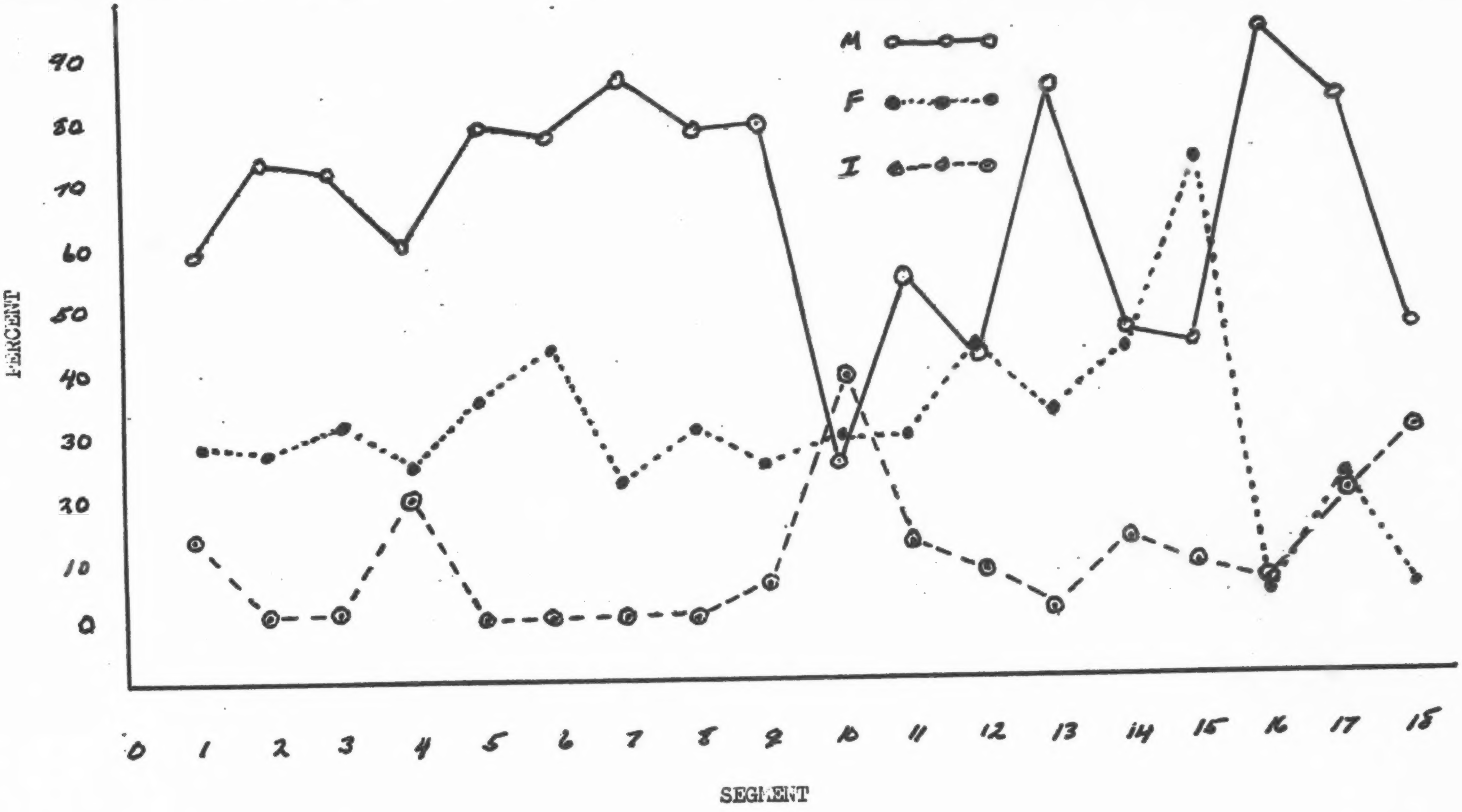

Figure 3. Interaction Chronograph. Duration of all actions by participants expressed as percent of duration of segment.

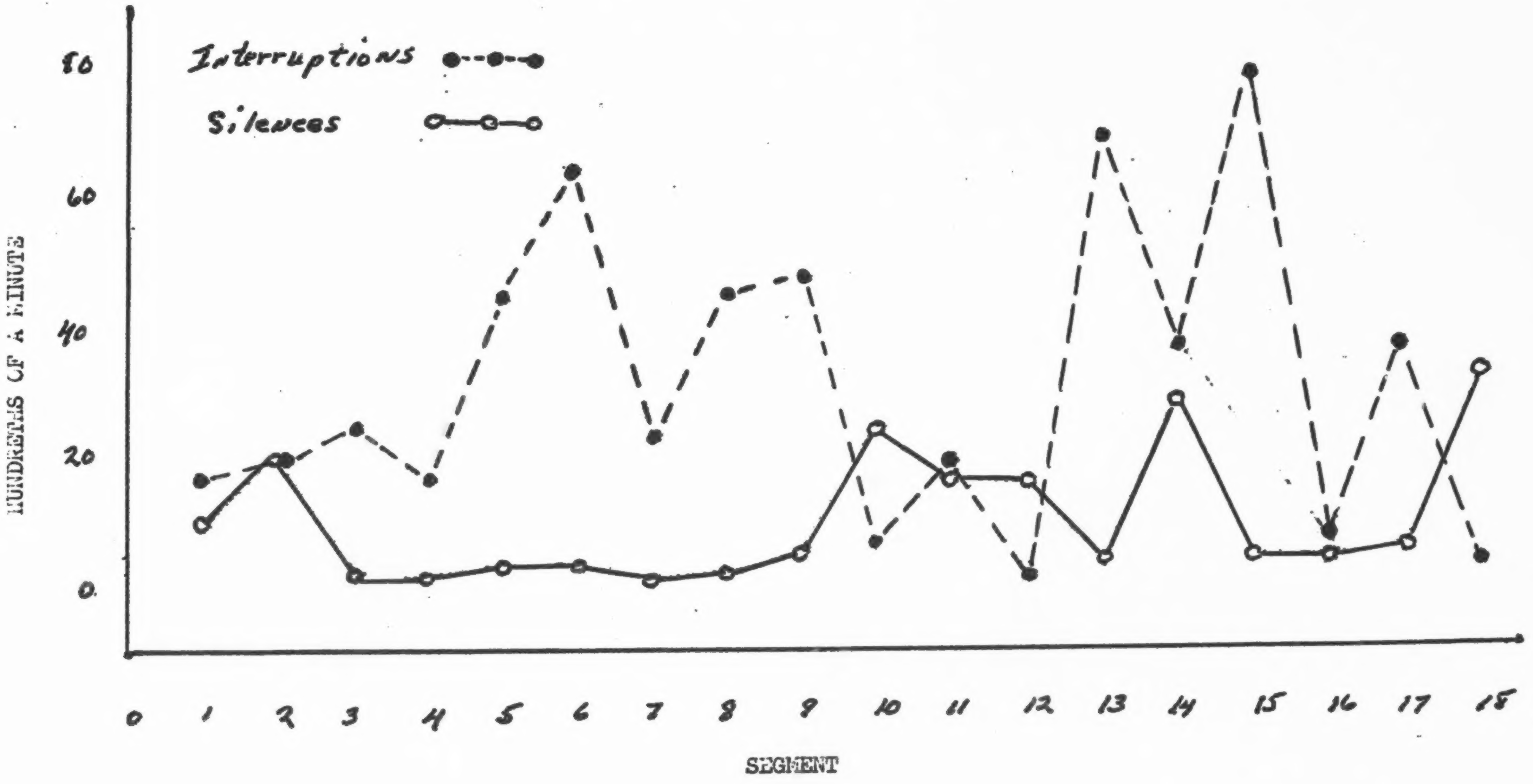

Figure 4. Interaction Chronograph. Duration of interruptions and silences expressed in hundreths of a minute.

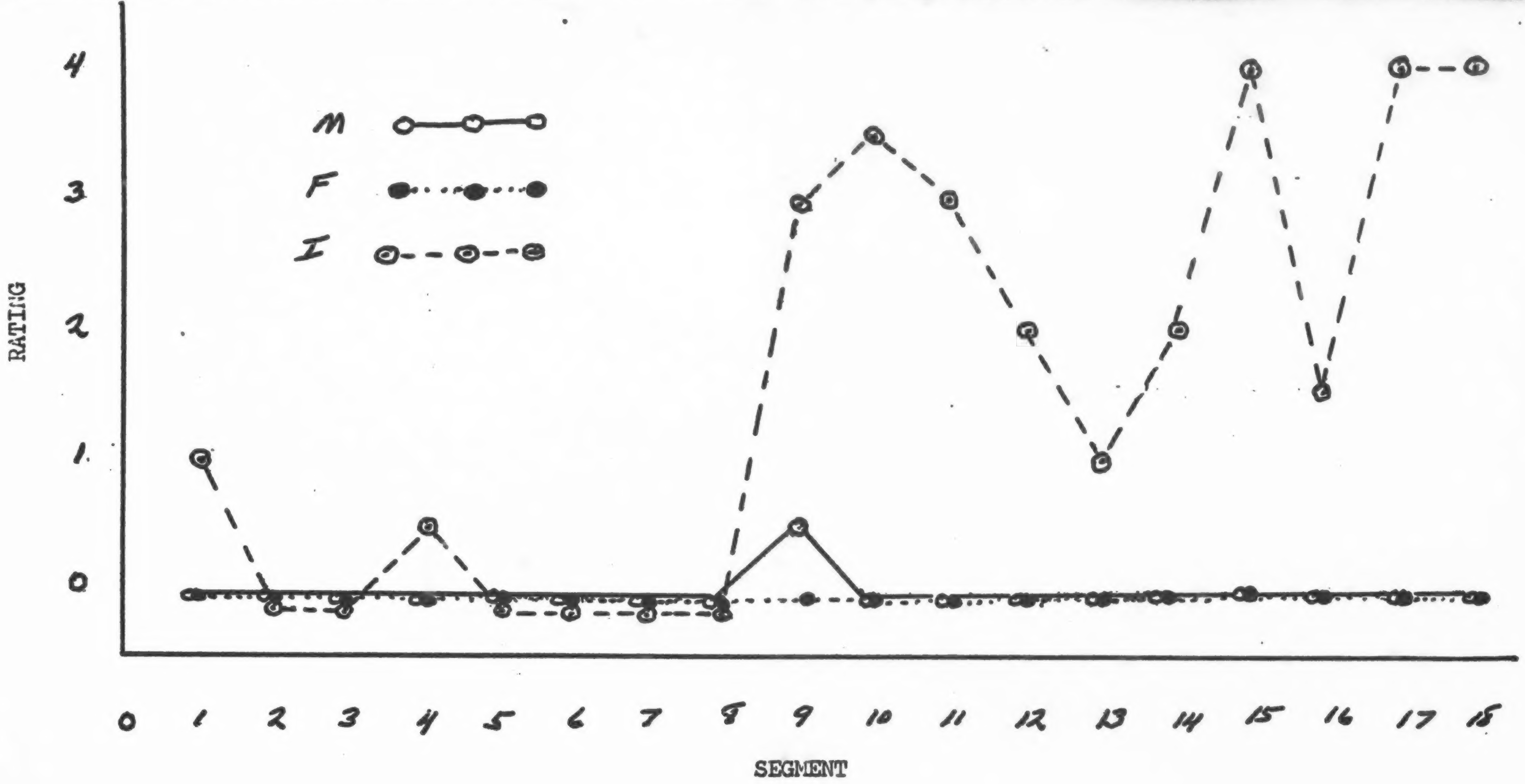

Figure 5. *Dimensions of Interaction in Group Therapy*. Ratings of Therapist Role.

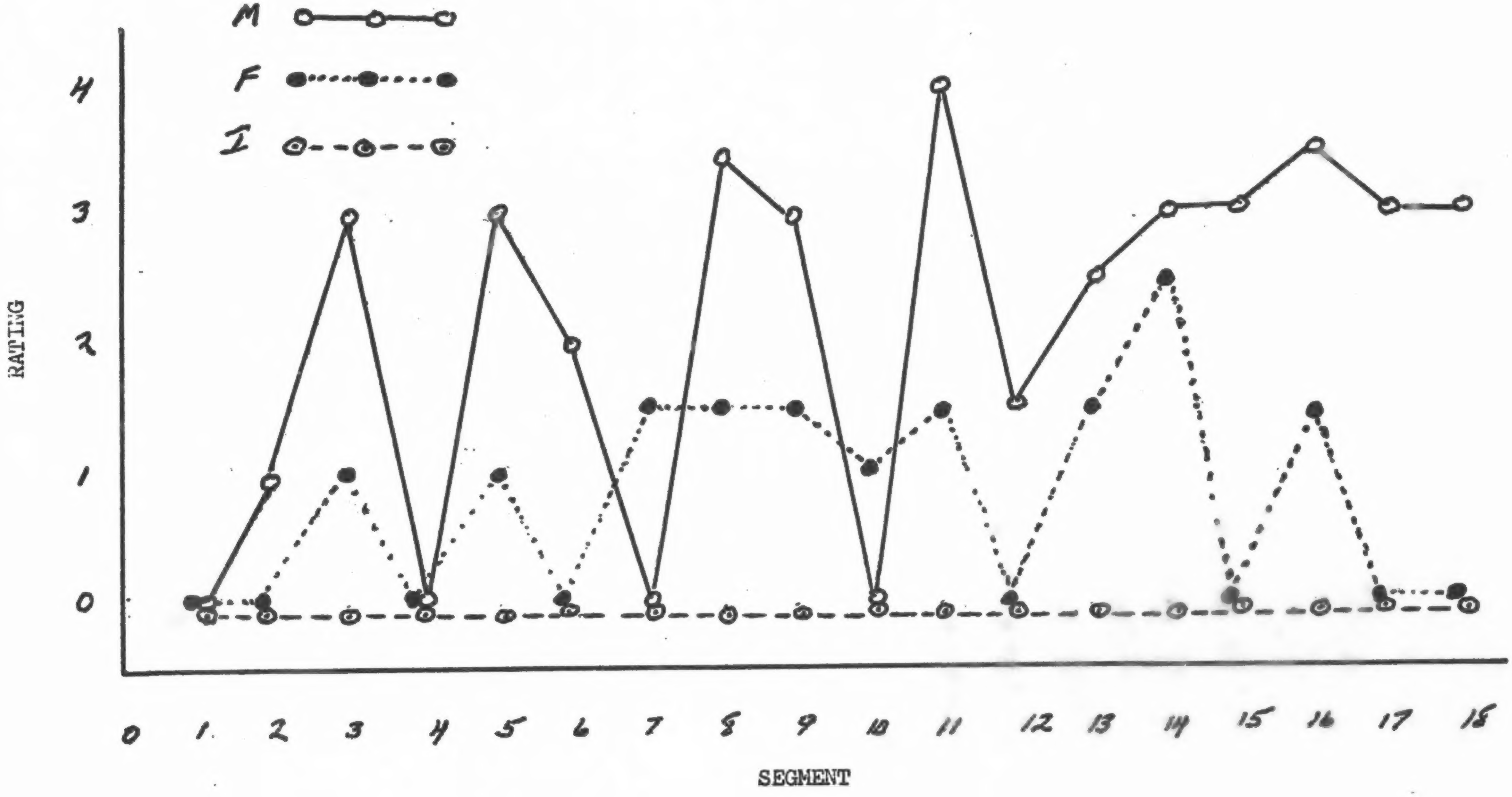

Figure 6. Dimensions of Interaction in Group Therapy. Ratings of Hostility.

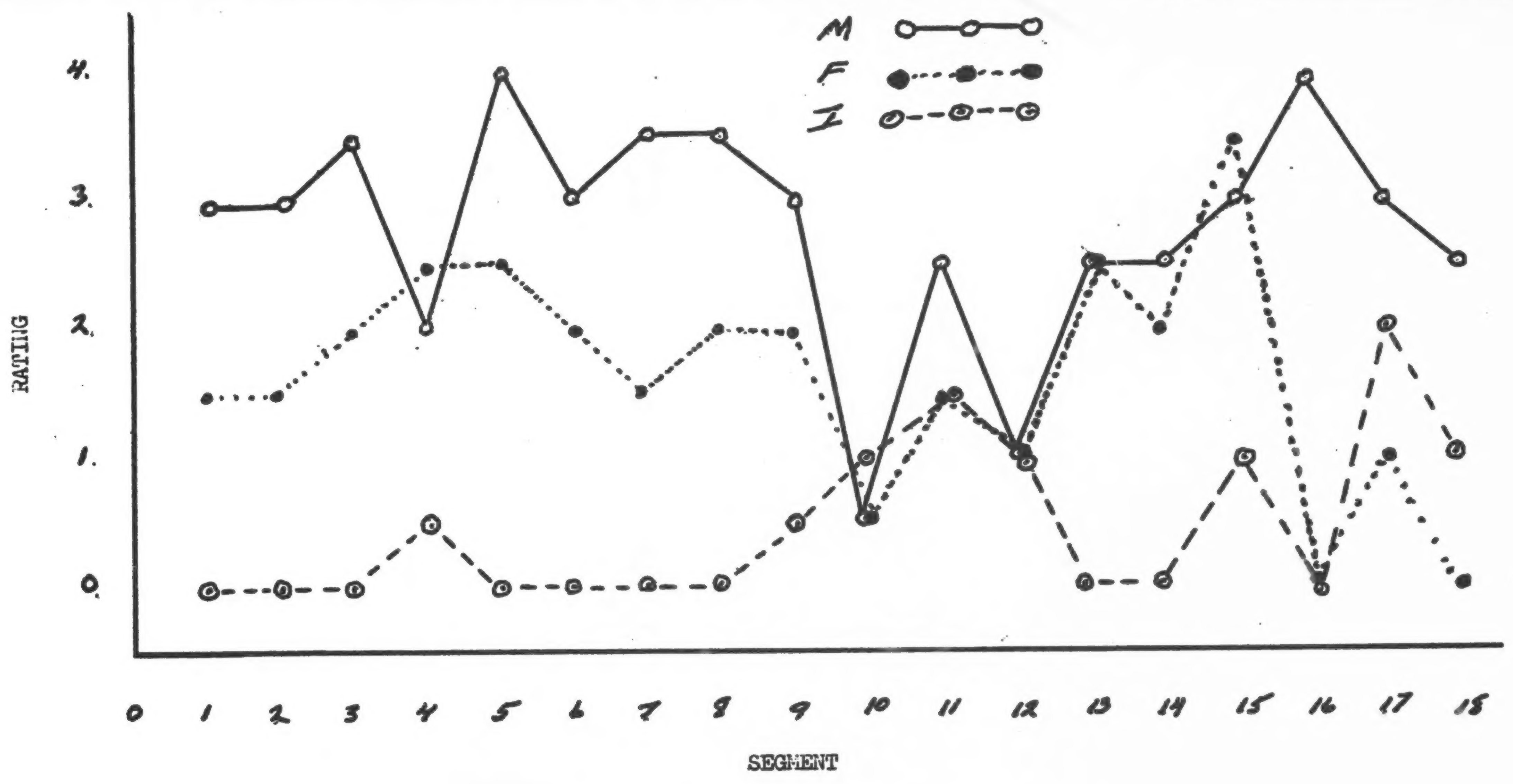

Figure 7. Dimensions of Interaction in Group Therapy. Ratings of Attention-Seeking Control.

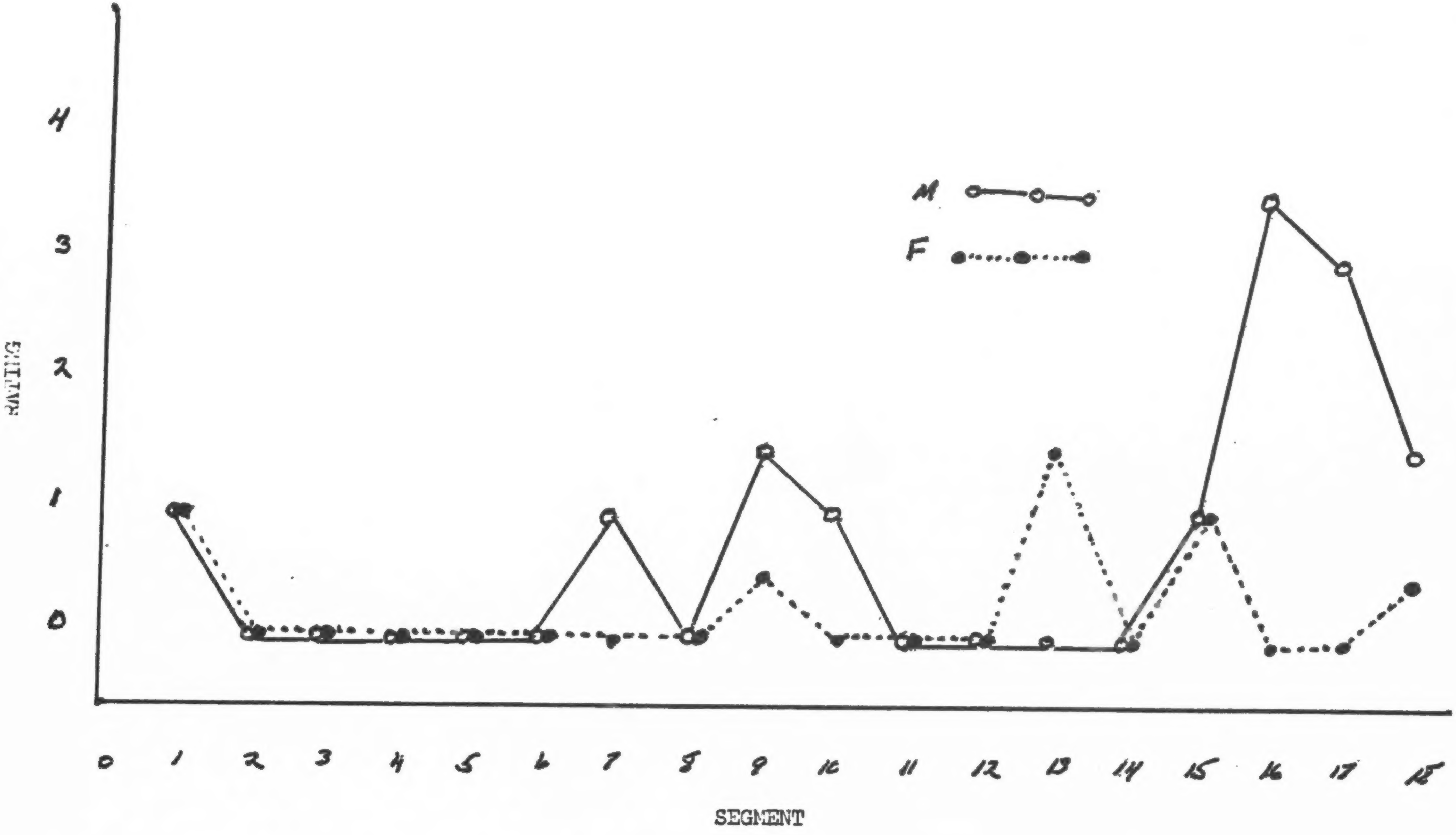

Figure 8. Dimensions of Interaction in Group Therapy. Ratings of Succorance.

V. DISCUSSION AND SUMMARY

The current interest in family therapy has produced many glowing reports on its application, but few theoretical or research contributions.

Our sharing in this enthusiasm for family therapy led us to undertake this study. We analyzed the family's early contacts with the Clinic during the diagnostic period and hypothesized that the family interview was the most profitable approach. The first part of the project assured us that this was so, but left us without the hard proof we were seeking.

The principal reason for this lack was our emphasis on information as the criterion of a productive diagnostic encounter. We discovered that the interviews most clinicians would judge to be superior were not necessarily the most informative but those in which something else happened - a change occurred in the participants. As a result, we were drawn into a difficult area of research, the assessment of change.

The problem of change led us to General Systems Theory and the concept of Steady State and Change. The bulk of this report has to do with our application of this concept to the study of one interview.

The interview selected was one of the more active interviews and one in which a change was likely to have occurred.

We then made a quantitative analysis of the interview and attempted to locate significant changes by means of five measuring instruments. Four of these, developed for other types of interviews, were selected "off the shelf" and adapted for our purposes. These are Chapple's Interaction Chronograph, Roger's Process Scale, Lorr's Dimensions of Interaction in Group Therapy, and Riskin's Family Interaction Scale. Another, the Index of Involvement, was developed for this project by Mellett and Carroll. Each of these scales measures one or more dimensions that is relevant for psychotherapy, and the credibility of an indication of change in one scale is supported if the other scales show change at the same time.

Applied to our material, we found that each of these scales gives evidence of a steady state, then a change, and a new steady state. They all indicate change at the same time and in the same direction. Collectively they clearly indicate a steady state, then change toward a more adequate functional level.

Now if we have a divining rod that indicates the presence of change, the time of change and the direction of change, it should enable us to judge the effectiveness of therapy, and help to clarify the nature of the therapeutic process.

In this project we conceptualized the therapeutic process in terms of the interplay of Information, Relationship and Decision. The significant events in therapy were viewed as a spiral process. Information must be exchanged in a way that is significant for the identity of the participants in order for a Relationship to be established. Information then exchanged in the context of Relationship forms the basis for Decisions. Decisions then become Information regarding new identities which lead to a new Relationship and new Decisions.

In the interview the progression from Information to Relationship to Decision is parallel with the progression from steady state, to change, to new steady state. Decision is equivalent to change.

We feel that this project makes conceptual and methodologic contributions to the study of interviews and to the nature of the therapeutic process.

If it were possible to continue this work we would simplify the methodology, using only the Chapple, Rogers and Index of Involvement scales, refine our scoring, and examine other interviews for comparison with the one we have intensively studied. We should also like to use this approach to study the process of therapy in other types of interviews, such as psychoanalytic, crisis intervention, social case work and medical interviews.

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AN ASSESSMENT OF FAMILY INTERVIEWING*

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This paper describes the development and implementation of a research project which is still on-going and gives some preliminary findings.

PLACE

This work comes from Craig House for Children, an independent out-patient clinic, located in the University Area of Pittsburgh serving a predominantly middle income clientele. We are experimentally oriented and family therapy has been a part of our operation almost from the beginning. Our early interest in this area was stimulated by Murray Bowen during the time of his pioneering work in family therapy at the National Institutes for Mental Health. Our interests in the area of family therapy has been reported in three papers on family therapy, the most recent one entitled "Family Therapy - Some Observations and Comparisons" which has been accepted for publication in Family Process.

FAMILY THERAPY

As with many other workers in the area of family therapy, we were impressed that much is different in family therapy from individual therapy. Insights into interactions are obtained that are hard to come by in individual therapy. A global view of the family processes is obtained. Movement is almost always facilitated and is sometimes very rapid. We gradually became committed to the idea of studying the processes of family therapy, not only in a clinical manner but from the more rigorous standpoint of a research design.

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We felt that what was needed was not some new device for grasping realities hidden from the ordinary methods of daily clinical practice but rather new explanatory concepts and models for the ordering of the facts of family life that were open to us.

QUESTIONS

At the community level, we wondered if families that are isolated from social interchange in the community have more mental health problems than other families. Do different types of families express their distress in physical illness, mental illness and delinquency? In terms of family interaction, we wondered if we could describe a general model of family function. We were interested in how happiness or unhappiness of a family group found expression in the health or illness of individual members. What was responsible for the occurence in some families of a similar pattern of behavior in all siblings, in others alternating pattern in the siblings, and in others of a different pattern in each child?

Concerning clinic function, we wondered if a study of treatment results of families treated by conventional methods and of families treated by family therapy would tell us much about the processes involved in each. We wondered what serves as a basis for the judgement that clinicians make and how they obtain the data for their judgements. Are there ways to obtain this essential data more quickly and of coming to judgements more effectively? We were concerned with learning whether certain individuals of the family could supply more information on essential points than other individuals of the family. We wondered what sequence of units of the family would supply the most data and would most quickly lead to judgements. We wondered if interviews with an individual tend to give predominantly historical data about intrapsychic conflicts and whether interviews with groups of members of the family would tend to give predominantly information about current interpersonal conflicts. We also wondered if, in a brief series of interviews such as regularly occurs in diagnostic study, the first interview gave the most information simply because the least amount is known of the family, or is the early part of a diagnostic process essentially a matter of identifying each other with significant material postponed until later. At the level of the interviewer, we wondered whether the identity and methods of the interviewer were highly significant in the type of material elicited and the time required for an adequate gathering of information.

DEVELOPMENT OF THE PROJECT

We spent about a year of staff meetings mulling over these questions and moving toward a research project. As we are a rather small clinic, the investigation would involve the entire staff and a great deal of time was devoted to working out a program which every one on the staff could accept as a valid program. We had the problem which might be expected, that the research oriented people on the staff had a much different view of research than the clinicians. The clinicians would have preferred that we continue our regular, intuitively guided pursuit of the truth allowing the researchers to somehow derive their important findings as a by-product from this without interferring, in any way, with the procedures. The research members, on the other hand, insisted that such a collection of unique experiences could never be generalized into a format that could be formulated and tested. We gradually evolved the present study which, we believe, appreciates the need for research design, but at the same time, does not filter out the richness of the clinical encounter. Our central hypothesis is that an interview with the family as a unit yields more information about the dynamics of the family and its relationship to the problem of the referred child than an interview with any other unit of the family.

SAMPLE

The sample for our project consisted of 24 families taken from current referrals who met the criteria that it be an intact nuclear family with at least two verbal children and a non-emergency problem.

I must point out that this is a real life project. It is live, naturalistic work as part of a regular clinical operation, involving the gathering of material upon which to base clinical judgements and help families make decisions concerning their lives.

INTERVIEWERS

The interviewers were four experienced therapists of assorted disciplines from outside Craig House staff. One is a psychoanalyst, one a clinical psychologist, one a Rogerian psychologist, and one a psychiatric social worker.

ROUTINE

The routine adopted was that each family would be seen six times by a research interviewer. The interviews would be three individual interviews with the father, mother and referred child and three group interviews with the parents, the siblings and the whole family together. These interviews would be arranged so that unit effect could be separated from position effect. The families would be asked to participate in the research interview on the first contact with the family. If they accepted and went through the six research interviews, they would then be seen by a Craig House staff member in order to complete the diagnostic procedure.

MECHANICS

The interviews were conducted in one of our regular clinical offices which had two microphones suspended from the ceiling and a stero-tape recorder in a cabinet. A second tape recorder made a duplicate tape in another room and this unit served for monitoring.

PROCEDURE FOR INTERVIEWERS

As our interviewers were all seasoned clinicians, we did not feel that instructions to them to use a different kind of interviewing would be helpful. We accordingly directed them to interview as they were accustomed to, keeping the following things in mind. First, that the tapes would be listened to by individuals without the benefit of the visual kinetic cues and that they should therefore endeavor to get important non-verbal interaction verbalized. Secondly, they should try to make each interview a unit that could stand by itself. Thirdly, that they would have a rather extensive form to fill out at the completion of the interview. They were familiar with the form and did a trial run before the regular research families were begun. The only information they had about the family was a face sheet giving the family composition and reason for referral.

INTERVIEWER FORM

The form, which was filled out after each interview, contained six sections. The first section was a listing of Clinically Significant Incidents. These incidents might be statements made in the interview, events observed in the interview, inferences about the interview or any other material with which the interviewer felt to be of clinical importance. The second section is Interpersonal and Intrapersonal Perceptions. In this are listed perceptions of each member of the family and the interviewer concerning each other member of the family. As before, no specific instructions are given and the perceptions might be a statement made by a family member, an observation of the attitude of one family member toward another, or the interviewers' inferences. Section three, Family Relationships, describe the interpersonal relationship of each member of the family with each other member of the family and with other groupings of the family. Section four, Identification of Problems of Family Members and Identification of Conflict Areas in the Family. Section five, is the Selection of Most Important Clinical Incidents, Interpersonal Perceptions and Family Relationships Relevant to the Referred Child's Problems. Section six is an Interview Rating Scale with ten items. In Section Two, Three, Four and Five, each item is rated to confidence.

RATIONALE

At this point, the research methodologist might well be alarmed that we are setting out to sea with a great net to catch all kinds of fish with no devices for identifying, measuring or weighing the fish we might catch, and we might add, with no devices that would limit the kind of fish we might catch. We have done this on purpose in that we are exploring an uncharted area and as much as possible, we wish to avoid the pre-selection of data according to a theoretical model in an area where model building has yet to be accomplished. We wanted to observe patterns of behavior of families as freely as possible before devising measurements or tests of such behavior. We expect to derive models from our material.

We have two levels of data, the raw data are the tape recorded interview. The selected data are whatever incidents of the interview have been recorded by a variety of skilled clinicians as being important in their seasoned clinical judgement. Our problem is to distill meaning from this material, organize it into testable models, then return to the selected data and see whether it does or does not support the model. A further step is then to compare the raw data with the model. We thus hope, by moving back and forth from the subjectively based theoretical construct to the objective observation, to utilize clinical judgement as the basis of a validating, organized, interlocking set of concepts.

THE RUN

We had no difficulty in obtaining families for the research. We had no objections on the part of the families to the recording technique or to the fact that the tapes would be listened to by a research team. We had no objection to the sequence of the interviews, even when the sequence began with the siblings. All families completed the project. We had no difficulty with the mechanics of recording, but we found the use of two machines a necessity.

In order to control the effect of family units and effect of position, we had arranged the interview sequence according to a Latin Square design so that for any one interviewer, no unit would appear in one position more than once and no unit would precede or follow another unit more than once. However, in the run there was an inadvertant interchange of some of the families so that there was some randomizing of the design.

RESULTS

EFFECT ON FAMILIES

It was considered important that the research procedure not be an emotional hazard for the families involved in it and it was found not to be so. In no instance did we feel the research procedure had been deleterious in any way. At the close of the research interviews, most of the families felt they had already completed the diagnostic process and were impatient to be given the findings. In several instances the families had worked through the problem which they presented to the research interviewer, and presented a different problem to the diagnostic interviewer.

REFERRAL EFFECT AND MOTIVATION

As George Devereaux states,[1] diagnosis is a social process. The first step in diagnosis is the decision that an eccentricity exists. The second step is that the eccentricity is of concern to an authority. The third step is that the eccentricity is of concern to a mental health authority.

The clinic then is not the first step in a diagnostic process, but is well along in the chain of events. We feel that the earlier events in this sequence effect the set toward the clinic and the diagnostic procedure of the clinic. The initial decision that there is something wrong may be made by the family itself, by an outside agent closely related to the family such as the family doctor or an agency more removed from the family such as the school or an outside agency such as the police. Families who made the original diagnosis themselves seemed to be more inclined to make decisions concerning their problems during the course of the interviews. Families who have had a diagnosis made by an outside agency are less inclined to come to a decision about the problem for themselves, and tend to wait upon the clinic to make such a decision and impose it on them.

INFORMATION, RELATIONSHIP AND DECISION

The behavior of an interviewer and the behavior of the family unit at any one time may be looked at in terms of:

Information Seeking, Giving, or Blocking.
Relationship Seeking, Giving, or Blocking.
Decision Seeking, Giving or Blocking.

We have devised a crude formula that Information times Relationship equals Decision, and by Decision we mean a change in behavior.

When the Relationship was intense, and the information meaningful, behavior changed in the interviews, and the process became more "therapeutic" rather than "diagnostic".

INTERVIEWER VARIABLES

This study was designed to investigate the family dynamics and the difference in yield from interviewing different family units. It was not particularly designed to study interviewers but the behavior of the interviewers imposed itself upon the material. Each interviewer displayed his own individual style that he followed consistently, regardless of the family or the unit of the family that was interviewed. This has led to some difficulty in comparing one interviewer's material with another.

Interviewer One guides and directs the flow of information by open ended questions without interrupting, pushing, or interpreting. Silences are minimal and anxiety is low. He offers and elicits relationship through a high degree of linguistic and para-linguistic congruity with the interviewee. In his interviewer report he gives a large number of rather brief observational items, and avoids inferences.

Interviewer Two is problem oriented and solution seeking. His open ended questions are centered about the interviewee's problems. He is usually unobtrusive but often does move to open-leading questions, then to confrontation. He follows dynamic trends and tolerates silences indefinitely. In his report he gives a small number of incidents, moderate in length, with some observational material but mostly inferences as to dynamics.

Interviewer Three uses questions that are interpretive in that he frequently confronts the interviewee with polarized attitude alternatives and pushes for a choice. He tends to use verbal utterances in response to affect material and para-linguistic utterances to factual statements. He offers and elicits relationship through his sensitivity to affect laden interpersonal dynamic material and he elicits decisions through his confrontation with polarities. His report gives a high number of incidents, moderate in length, of observed interactions.

Interviewer Four pays little attention to information gathering per se, but makes many affect statements to the interviewee, anticipating the interviewee's affects, expressing his own affects freely. His report gives lengthy inferential statements, few in number, and centered about affect and relationship.

INTERVIEWER'S REPORT

The interviewer's rating of a series of questions regarding each interview is given in table IV. For the first question "amount of general information yielded", the rank was Parents, Mother, Family, Father, Siblings and Referred Child. This suggests that the presence of the mother may be a most important factor, and that the group interview of the parents together, and the whole family were also important.

As would be expected the more people present in an interview, the more the material was interpersonal, rather than intrapersonal. The expected outcome was also maintained in regard to present material for the referred child, the siblings and the family together, and the most historical material being given by the father and mother.

The question of the composure of the patient can probably also be interpreted as the comfort of the interviewer. The high rank for Mother and Parents might be expected, but the remaining distribution is a little puzzling.

The question regarding Helpful Exploration gives a high rank to Parents and Mother, and lowest rank to the largest groups - siblings and whole family.

The remaining questions were not statistically significant, but it is interesting to note that the rank for question 5, "this family unit tends to handle communication by helpful exploration" is identical with the rank for question 8, "the parent(s) seemed to feel that this interview was very helpful" and similar to the rank for question 7, "the level of anxiety of the interviewer during this interview was low".

The position of the interview was not statistically significant for any question, except for the obvious and expected position effect for question 10, "do you feel further interviews will change your understanding of the family dynamics". The fact that position effect is not significant gives weight to the significance of differences for the unit variable.

UNIT YIELD

The question "which units of the family yield the most information regarding the dynamics of the family and its relationship to the problem of the referred child" involves a series of further questions. What are the dynamics of the family? Which behaviors are important and which are trivial, and for what purposes? What are problems? What shall we count and measure? At the present stage of the project the research team is trying to work out these answers for each family on the basis of clinical judgement. Thus far we have been able to understand the dynamics of individual families but have not been able to work out generalities that apply from family to family.

For a particular family we can specify that certain units were essential, and others could have been omitted with no loss. In general we have felt that the most successful sequences were those in which the pattern of family behavior was obtained in early group interviews with the whole family, the parents and the siblings, with later individual interviews centered on exploring the origins of family patters.

We were surprised that in this series the individual interview with the referred child gave so little information that was not also obtained from other interviews. One exception to this might be noted - when the referral indicated that the behavior of the referred child was different in different settings, seeing the child alone first may bring out behavior that might be covered up if he were seen in a family interview first.

DIRECTIONS

Our present task is that of refining our theory and determining what patterns and interactional data are meaningul. We are working on methods of coding and recording the interviewers' judgements. We then intend to formulate our findings into hypotheses which can be tested with this material. Various social, psychological and psychiatric hypotheses will be checked, both on the selected, and on the raw data.

APPENDIX

TABLE I

OCCUPATIONAL CATEGORY OF HEADS-OF-HOUSEHOLD

Category	Research	Craig House
Professional people	43%	34.6%
Proprietors, managers, Officials	17%	27 %
Clerks, kindred workers	22%	22 %
Skilled workers, foremen	13%	8.3%
Semi-skilled workers	4%	7.9%
Unskilled workers	0%	0. %

TABLE II

REFERRED CHILD COMPARISON

	Model Age	M:F	No. Sibs
Research	10.7 years	4:1	3
Craig House	12.1 years	3:1	3

TABLE III

FAMILY COMPOSITION

No.	Fa.	Mo.	C_1	C_2	C_3	C_4	C_5	C_6	Interviewer
1	31	32	9	7'*	5	1.5'			1
2	43	40	17'	13'*	4				2
3	43	43	21'	20	19'	13'*	13	6'	3
4	35	31	10	7'*	5'				4
5	42	41	12'*	10	6				1
6	38	40	14	11'*	9				2
7	40	35	15'	13 *	7				3
8	48	43	14'*	12'	3'				4
9	36	32	6'*	4'	2				1
10	40	37	11 *	8'					2
11	47	47	15'*	9					3
12	31	30	7 *	5					4
13	44	42	16 *	14'	10				1
14	47	48	17'*	14	12	8'	5'	1'	2
15	34	30	7'*	3'					3
16	34	29	8'*	5'					4
17	43	38	13	11'	9'*	4			1
18	45	42	10'*	9'	7'	5'	2		2
19	43	43	21	12	8'*				3
20	40	39	16'	14'*	3				2
21	42	38	11'*	10	5				1
22	35	31	9'*	4					2
23	41	34	11	8 *	4'				3
24	36	30	7'*	5					1

* Referred Child
' Male

TABLE V

INTERVIEWER REPORT: INTERVIEW RATING SCALE

General Analysis of Variance

	Question	Unit* Rank	Significance	Position Rank	Significance
1.	The amount of general information yielded by this interview was: LARGE SMALL	BCADFE	.01	231546	no
2.	This family unit tended to produce data which were primarily: INTERPERSONAL INTRAPERSONAL	AFBDEC	.01	514263	no
3.	In terms of time orientation, this interview tended to produce data: CURRENT HISTORICAL	FEABDC	.01	542613	no
4.	The composure of the patient(s) can be described as: COMFORTABLE UNCOMFORTABLE	CBFDEA	.05	614523	no
5.	This family unit tends to handle communications by: HELPFUL EXPLORATION BLOCKING EXPLORATION	BCEDFA	.05	623145	no
6.	In terms of clinically significant material, this interview was VERY PRODUCTIVE UNPRODUCTIVE	BCDAFE	no	236415	no

TABLE V CONTINUED

	Question	Unit* Rank	Significance	Position Rank	Significance
7.	The level of anxiety of the interviewer during this interview was: LOW HIGH	CEBDFA	no	614325	no
8.	The patient(s) seemed to feel that this interview was: VERY HELPFUL NOT HELPFUL	BCEDFA	no	236145	no
9.	The rapport between the interviewer and the patient(s) was: VERY GOOD VERY POOR	BCDEFA	no	216435	no
10.	At this point, do you feel further interviews will change your understanding of the family dynamics: VERY LITTLE SUBSTANTIALLY	CBFADE	no	645321	.01

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*A - Family
B - Parents
C - Mother
D - Father
E - Referred Child
F - Siblings

TABLE V

INTERVIEW SEQUENCE

No.	Sequence	No.	Sequence
1.	B A C D F E	13.	C B F A E D
2.	B E A D F C	14.	A B F E C D
3.	F A C B D E	15.	C F D A E B
4.	D C E F B A	16.	E D B C A F
5.	D A C F B E	17.	C D B A E F
6.	B C E D F A	18.	E B F C A D
7.	F E A B D C	19.	A F D E C B
8.	C B D E A F	20.	A F D E C B
9.	A D F C E B	21.	F A E D B C
10.	E F B A C D	22.	B E C F D A
11.	E F D C A B	23.	C D B A E F
12.	A D B E C F	24.	E B F C A D

A - Family
B - Parents
C - Mother
D - Father
E - Referred Child
F - Siblings

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SYSTEMS APPROACH TO BEHAVIOR AND CHANGE*

Edward J. Carroll, M.D.

Research in psychiatry today is hampered by the lack of any adequate way of managing the large number of variables that must be considered, and the mass of data that is involved even in a small research project. There have evolved a number of methodologies for dealing with parts of the problem, but perhaps what is needed first is a philosophy of methodology, or a broader conceptual framework within which our area of concern may be bounded.

It is believed that General Systems Theory offers such a framework, and that it is specifically suited for ordering large and complex systems. In this paper General Systems Theory will be outlined and a suggestion will be made for its application to the phenomenon of behavior.

Some attempts in this direction have already been made. (8, 9, 12, 13, 14) Recently Charny and Carroll (7) and Loeb and Carroll (11) have discussed General Systems Theory in relationship to Psychoanalytic Theory.

The name General Systems Theory was coined by Ludwig von Bertalanffy (4), a theoretical biologist, who with W. Ross

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Ashby, Ralph W. Gerard and Anatole Rapaport was instrumental in founding the Society for General Systems Research in 1954. This group publishes the yearbook, General Systems.

General Systems Theory is a set of principles which can be applied to systems in general whether these be complex physical systems, biologic systems, or social systems.

One of the precursors of General Systems Theory is the homeostatic principle of Cannon. (6) Cannon states, "In summary, we find the organism liberated for its more complicated and socially important tasks because it lives in a fluid matrix, which is automatically kept in a constant condition. If changes threaten, indicators at once signal the danger, and corrective agencies promptly prevent the disturbance or restore the normal when it has been disturbed. The corrective agencies act, in the main, through a special portion of the nervous system which functions as a regulatory mechanism. For this regulation it employs, first, storage of materials as a means of adjustment between supply and demand, and, second, altered rates of continuous processes in the body. These devices for maintaining constancy in the organism are the result of myriads of generations of experience, and they succeed for long periods in preserving a remarkable degree of stability in the highly unstable substance of which we are composed."

The urgencies of World War II spurred the development of radio, radar, steering systems, gun aiming systems, and computers. Since then mechanized systems have become more sophisticated, with automated machinery and target seeking missiles. The designing of these devices, with their apparently purposive behavior has depended upon major advance in communication theory, information theory and cybernetic theory, all of which have contributed to General Systems Theory.

Concurrent developments in management science have led to "Human Engineering" (machine design adapted to the capability of the average expected operator), "Man-Machine Systems" (considering the operator and the machine not as two systems, but as one system), and "Operations Research" (development of practical mathematical methods of solving operational problems). (10) Many agencies of the government now use PERT (Program Evaluation and Review Technique) (15) in order to maintain communication and control of time schedules and costs of hugh design and production projects. PERT furnishes a nice visualization of the hierarchical structure of complex projects, their breakdown into manageable work packages, the network of required efforts, the identification of critical areas of effort and expense, and the means by which all this information may be collated.

The hierarchical structure of complex systems is of special interest. (16) The system has its subsystems, which in turn have subsystems. The human, as an individual, has serial subsystems of organs, cells, molecules, etc., and he is in turn a subsystem of supra-individual system.

An item at any particular level can be thought of as an individual, which is in horizontal relationship with other individuals to form a population, with whom it functions. It also has vertical relationships with subsystems which constitute its structure and with suprasystems above it with which it participates in processes.

Explanation valid at one level will generally be inadequate at another level. Thus because the concept of energy is valid for physical events does not mean that the concept of "psychic energy" is useful at the level of behavior. At this level the concept of information and pattern is more relevant. (12)

The word system means, "to place together", and the dictionary definition is, "an assemblage of objects united by some form of regular interaction or interdependence; an organic or organized whole". In a system, the objects and the relationships among them must be specified. The ground rules must be spelled out, and must remain constant from the beginning to the end of the period under consideration. A system contains various time elements, which must be specified, and there must be significent differences in the time scale of its structure and its processes. Ultimately everything in a system is changing dynamically and it is this difference in time scales that allows us to differentiate the elements of a system and to grasp its basic shape and features.

According to O. R. Young (17), a political scientist, General Systems Theory consists of an integrated group of descriptive, explanatory, and predictive concepts designed to probe the nature of a wide variety of systems and interactions among systems and to provid a framework for the extensive analysis of systemic behavior. Among those concepts which are primarily descriptive, several categories can be differentiated in terms of their subject matter. These categories include at least the following: 1) concepts which distinguish different kinds of systems, 2) concepts concerning hierarchical levels of systems, 3) concepts dealing with segments of systems and subsystems, 4) concepts delineating the internal organization of systems, 5) concepts relating to the interaction of systems, and 6) concepts which focus on various paths which systems may follow over time.

Kenneth E. Boulding (5), an economist, emphasizes interdisciplinary studies and mathematical analysis. As seen by Boulding, General Systems Theory describes a level of theoretical model building which lies somewhere between the highly generalized constructions of pure mathematics and the specific theories of the specialized disciplines. Mathematics attempts to organize highly general relationships into coherent systems, a system however which does not have any necessary connections to the "real" world around us. Because mathematics contains all theories, it contains none. It is the language of theory but it does not give us the content. It is the quest of General Systems Theory to give us a body of systematic, theoretical constructs that will discuss the general relationships of the empirical world. Somewhere between the specific that has no meaning and the general that has no content there must be for each purpose and at each level of abstraction an optimum degree of generality.

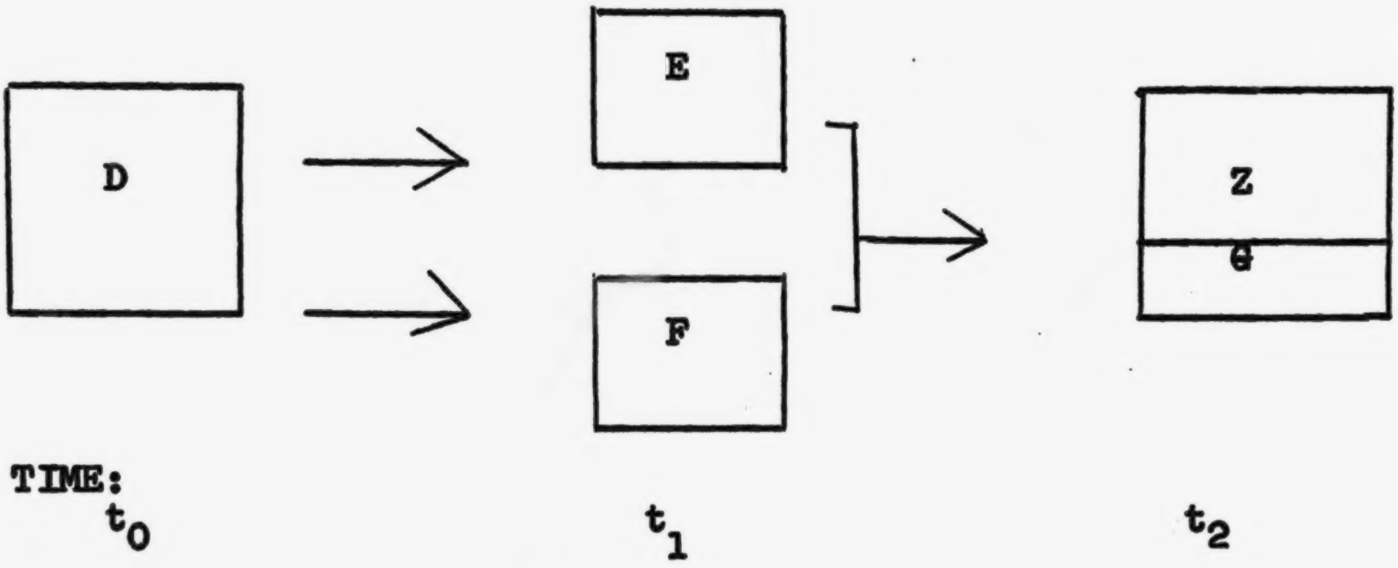
Another major contributor to General Systems Theory is W. Ross Ashby, who began his professional career as a psychiatrist, then became Director of the Burden Neurological Institute, England, and is now Professor in the Department of Electrical Engineering at the University of Illinois.

Ashby (1, 2) has set out to specify what sort of machine the brain must be to function as it does. His approach is mathematical, and his model for adaptiveness is that of step functions defining a system. These functions change the system if a critical value is exceeded. The system shows adaptation by trial and error, or more properly, "hunt and stick." It tries various methods and if a method bring it into conflict with its environment, it tries again, if it is harmonious with its environment, it settles down.

In our own work of analyzing psychiatric interviews we entertained the concept of "Steady State and Change." Our expectation was that any variable we selected would vary within certain limits, and collectively these variables, over time, would constitute a dynamic equilibrium or steady state. We also expected key variables, from time to time, to exceed the established limits and disrupt the steady state, with reverberation through a number of other variables, and the establishment of a new steady state.

We soon saw however that a marked change in what we considered to be an important variable, for instance affect, might produce a change in the steady state -- or it might be merely a transient and produce no lasting effect.

We therefore felt we had to be more specific in characterizing the variables that made up our system, and we turned to a diagram of Ashby's: (3)



D is a set of disturbances operating upon the system.

E is the set of environmental variables with which we are concerned.

F is the set of regulators of the organism which respond to changes in set D.

Z is the set of outcomes from the interaction of D on E and F.

G is the set of "good" outcomes or desired specifications of Z.

For a stable system F should be capable of such variety that it can adapt to any values of D so as to limit any effect on Z to those values contained within G.

To illustrate this with a simple example, let us suppose that Private Smith's outfit is participating in a military ceremony and that Smith is also a subject for physiologic study. Smith stands at attention, immobile as a statue. A physiologist, by means of telemetering apparatus, is aware that Smith is working very hard. The ambient temperature is 90 and Smith's temperature has gone up to 101. His pulse is fast and still rising and his blood pressure is beginning to fall. Then the ceremony is over. Smith walks off in his squad and for the spectator nothing has happened and the physiologist watches his dials return to normal values. In this example D includes the stress of standing at attention, E includes the environmental factors, F includes the responses to this stress, G requires Smith to perform like a soldier, and Z for the physiologist is the reading on his dials and for the spectator is zero. However, if D had continued a minute longer, Smith would have collapsed and Z would have registered a change in anyone's viewpoint.

We believe the same diagram can be useful for various processes in psychiatry, including its use to study individual and family interviews. For the purpose of an interview E is the set of relevant aspects of the environment that shape the interview, D is the set of disturbing activities generated during the interview, F is the set of characteristics of the participants relevant to the interview, and their defensive and adaptive reactions to D. Z is the set of changes produced in the participants and environment by the impact of D on E and F. G is the set of value judgements concerning these outcomes.

It is our hope that this diagram will be of use not only to simplify and order the material of family interaction, but that it can serve as a common framework for the data of intrapsychic processes, interpersonal interaction and group processes.

It could also open the way for mathematical treatment of these processes, and be a step toward Bertalanffy's dream of General Systems Theory as the common language of the sciences.

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Appendix 1

Section 1

Family: 20
Unit: B
Interviewer: 2
Date: 2-1-64

CLINICALLY SIGNIFICANT DATA

It is assumed that each interviewer will proceed according to his usual custom in the clinical interview.

On this page, the interviewer may record any clinical cue which he considers significant. This would include, e.g., statements by or about any member of the family, or their relations to other persons; events in the interview or in the past history of the family members; non-verbal behavior; interviewer observation of, and inferences from, verbal or non-verbal behavior; descriptions of dress or physique; speech patterns; intrapsychic data; etc.
Number each item:

1. This was a lively interview in which both members of the unit participated actively, willingly, and required very little in the way of stimulation from the observer to keep the interview going. They later pointed out that this way of talking together about their feelings regarding the children's upbringing and their feelings about each other, was the customary way in which they talk and they do it frequently.

2. The principle topic of the conversation concerned itself with the attitudes of the parents regarding the raising of the referred child, and the attitudes regarding their behavior, the children's behavior, and their orientation to life in general. In this, both were perceptive of the other's attitudes as well as their own, but neither show much inclination to alter their attitudes, though the father is more willing to be compliant and change his attitudes than mother. Essentially, the conversation had to do with mother's high expectations and father's more accepting attitudes. At the close of the hour, mother revealed what had been inferred, that her high expectations for her children are intimately connected with her efforts to live down being colored. In this, she came to admit her rage both at the white world and at herself for this. To this father could respond in a way to say that the children shouldn't be used this way.

3. Mother's attitude that a person, a colored person in particular, should learn to know and to orient themselves toward the expectation that the outside world demands. Specifically, this means that the referred child should get to know what the Spanish teacher, who just gave the boy an F, really wants and expects, and therefore comport himself to please the teacher. Mother seems totally unaware of the burden of rage that then ensues. Father, on the other hand, has the attitude that one does not need to change one's attitudes, or to alter it or comply, but rather to find a devious way to accomplish the same end result. That is to say, if the boy hates the teacher, he shall continue to hate him, but let father help in some way to get a good grade. (Theoretically, in the opinion of the examiner, this should cause less rage against himself.)

Section 2

Family: 20
Unit: B
Interviewer: 2
Date: 2-1-64

INTRA- AND INTERPERSONAL PERCEPTIONS

1. Describe, on a direct or inferential level, all intra- or interpersonal perception (the image which the family member has of self and each other member of the family.) Write your descriptions on a separate page using the cell number to identify the description.
2. Although a family member is not present during the interview, it may be possible to elicit data from the interviewees relevant to the absent member's perception of self and others. In such instances, the perceptions are identified as second level inferences, e.g., mother's perception of C_1's perception of C_2 is (M) $C_1 \longrightarrow C_2$.
3. Rate your clinical confidence in each description by placing the appropriate rating in the cell blocks below. (1) Lack of confidence, (2) Little confidence, (3) Some confidence, (4) Adequate confidence, (5) Quite confident.
4. If the description recorded for any given cell does not seem adequate (or if the data is completely absent) place the appropriate code before the description. N.D. No Data, I.D. Insufficinet Data, A.D. Ambiguous Data, M.D. Misleading Data.

Perceiving Person	The Person Being Perceived (described)						
	F	M	C_1	C_2	C_3	C_4	
F	1-1 4	1-2 5	1-3 5	1-4 5	1-5 N.D.	1-6	
M	2-1 5	2-2 5	2-3 5	2-4 5	2-5 N.D.	2-6	
C_1	3-1 N.D.	3-2 N.D.	3-3 N.D.	3-4 N.D.	3-5 N.D.	3-6	
C_2	4-1 N.D.	4-2 N.D.	4-3 N.D.	4-4 N.D.	4-5 N.D.	4-6	
C_3	5-1 N.D.	5-2 N.D.	5-3 N.D.	5-4 N.D.	5-5 N.D.	5-6	
C_4	6-1	6-2	6-3	6-4	6-5	6-6	
Interviewer	1-1 5	1-2 5	1-3 4	1-4 5	1-5	1-6	

Section 2

Family: 20
Unit: B
Interviewer: 2
Date: 2-1-64

1-1 Father sees himself as a person who tries hard to help, wants to help, and who understands the problems of his stepsons.
1-2 Father sees mother as hard-driving, energetic, overly ambitious, overly demanding, while at the same time being loving and loveable, or at least it doesn't change his love for her. He does feel that her expectations of her sons are unreal and potentially damaging.
1-3 Father sees C_1 as a rather healthy, well integrated, young adolescent who is working up to his capacity.
1-4 Father sees C_2, the RC, as perhaps not so well integrated, but this is only a temporary thing related to his age level. He sees him as a capable boy who can work his way through his problems. Father feels much stimulated in empathy with this boy to try to help and not to criticize.
1-5 N.D.
2-1 Mother sees herself as an energetic, ambitious, hard-driving woman who knows what is right and what is best, who sees the world as it is, and sees herself as a Negro mother with the task of imbuing this kind of spirit in her sons in order to assist them in orienting themselves and living in the white world.
2-2 Mother sees father as a loveable character, but too much possessed of the character traits that whites use to criticize Negroes. That is, being indolent, shiftless, and being too accepting of things. While he may not have these character traits to the extreme, she nevertheless feels that he must be watched thoroughly to keep him from slipping back.
2-3 Mother sees C_1 as a boy who has certain problems, but who is working them out under her guidance. He is a boy who has become more compliant and "more mature" in accepting her demands and is accordingly doing much better on that account.
2-4 Mother sees C_2, the RC, as being in a precarous position with regard to his future life. She sees in him the traits of self-centeredness, cleverness, tendency to take the easy way. She also sees him as emotionally unsteady or unstable, being very rebellious inwardly even if not always outwardly expressing it. His rebellion is more often expressed in covert little things which she finds very annoying.
2-5 N.D.
3-1 N.D.
3-2 N.D.
3-3 N.D.
3-4 N.D.
3-5 N.D.
4-1 N.D.
4-2 N.D.
4-3 N.D.
4-4 N.D.
4-5 N.D.
5-1 N.D.
5-2 N.D.
5-3 N.D.
5-4 N.D.
5-5 N.D.

Section 2

I-1 Interviewer sees father as a helpful, cooperative man who wants to do what is right. He does not want to say, but he is alarmed at his wife's pushiness, her aggressiveness, and her ambitiousness. He seems to feel that he must counter his wife's demandingness by being over-giving.

I-2 Interviewer sees mother as a very hard-pressed Negro woman, who feels the need to scrub herself whiter than white, who hates herself for doing it and hates the whites for making her do it. She has a tremendous amount of rage at herself which she displaces on to her children and her husband in her efforts to get them into the right path. In addition to this is her great sense of shame and sense of failure about her first marriage which exagerates this need to be overly correct, overly white, and constantly upwardly mobile. At the same time she is alarmed at the same tendency in the referred child. She does not recognize it as such, but she regards him as very ambitious, but who would attempt to succeed to his ambitions by his cleverness alone and not honest hard work.

I-3 Interviewer sees C_1 as a boy who is making a rather satisfactory adjustment and who is currently reasonably satisfying both parents.

I-4 Interviewer sees C_2, the RC, as a frightened, and angry boy, who has problems in the area of both male and female identification as well as white-non-colored identification. He is rebellious and passively aggressive in a self-hurting way. He will get what he wants by whatever clever way he can. He is involved with a very intimate conflict with his mother which is probably highly charged sexually.

I-5 N.D.

Family: 20
Unit: B
Interviewer: 2
Date: 2-1-64

Section 3

Family Relationships

In this section, the interviewer is asked to describe the pattern of relationships between two or more members of the family (whether members are present or not). Use the data elicited in this interview for as many descriptions of interpersonal relations as you can, e.g., (M <--> F), (M <--> C_1), (F <--> C_1), (C_1 <--> C_2), (F <--> C_1 <--> M), etc.

Number each relationship item and place in the left hand column your clinical confidence rating of each item: (1) Lack of confidence, (2) Little confidence, (3) Some confidence, (4) Adequate confidence, (5) Quite confident.

Clinical Confidence	Item Number	Description of Interpersonal Relationships
5	1.	(M-F) This is basically a good relationship in which each seems to have at the core a basic respect for the other. This does not mean to say that mother could not easily become ashamed of her husband. She is afraid of his boisterousness and does tend to correct him. However, he does accept her demands in such a way and deals with them in such a way that their overall inter-relationship is quite harmonious. They are very oriented toward helping and directing their children, though they differ in aims and methods.
5	2.	(M-C_2) This is a relationship with a great deal of overt affection, covert hostility and struggles for power and love and affection. Mother describes an incident of her child's passive aggressiveness about his newspaper route and how she constantly has to remind him. While this is a power struggle, it probably also is a struggle to keep mother's attention. It is a relationship which is currently in a phase of difficulty because mother is quite indulgent while she is simultaneously very demanding, and probably she is becoming more demanding while limiting the indulgence.

-Use other side-

Section 3 Continued

Clinical Confidence	Item Number	Description of Interpersonal Relationships
4	3.	(M-C_1) This is a relationship which is reasonably harmonious, in which it is inferred that C_1 makes very few demands on mother, and he has learned to cope with mother's demands on him.
4	4.	(F-C_2) This is a friendly, "buddy" relationship, in which father wants to help his son at what ever cost. His son wants to lean on father, but mother interferes with the leaning.
4	5.	(F-C_1) This relationship is like the one above, but since the overt needs of C_1 are less, the relationship is less close and with less contact.

Section 4a

Family: 20
Unit: B
Interviewer: 2
Date: 2-1-64

IDENTIFICATION OF CONFLICT AREAS

1. On the basis of this interview, what are the referred child's overt problems? List them separately.

Referred Child's Overt Problems	C.R.*	L.C.C.**
1. Eratic school work	5	

2. On the basis of this interview, what are the referred child's covert problems? List each problem separately.

Referred Child's Covert Problems	C.R.*	L.C.C.**
1. A sense of inner rage and simultaneous fear.	5	
2. Passive-aggressive character traits.	5	
3. A superego formation which is eratic both with respect to identifications and with respect to conscience.	5	

*Rate confidence in statements by using appropriate number: (1) Lack of confidence, (2) Little confidence, (3) Some confidence, (4) Adequate confidence, (5) Quite confident.
**Low confidence in identification of conflict areas may be designated by the following codes: ND--No Data, ID--Insufficient Data, AD--Ambiguous Data, MD--Misleading Data.

Family: 20
Unit: B
Interviewer: 2
Date: 2-1-64

Section 4b

IDENTIFICATION OF CONFLICT AREAS

3. On the basis of this interview, what are the overt and covert problems of the father? List each separately.

Father's overt problems	C.R.*	L.C.C.**
1. His efforts to satisfy and to placate his wife.	5	
Father's covert problems		
1. Father's view of family's relationship with mother as the inspirer of boys and proper guardians of their morality which seems to make him uncertain about taking the leadership, so that he isn't trying to act in a way to lessen the impact of mother's drive or to impose his own rules himself.	5	

4. On the basis of this interview, what are the overt and covert problems of the mother? List each separately.

Mother's overt problems	C.R.*	L.C.C.**
1. Her over ambition for herself and her children.	5	
Mother's covert problems		
1. Rage at herself and the white world for her efforts to try to comply with the white world.	5	
2. Mother's sense of shame and guilt.	5	

*Rate confidence in statements by using appropriate number: (1) Lack of confidence, (2) Little confidence, (3) Some confidence, (4) Adequate confidence, (5) Quite confident.

**Low confidence in identification of conflict areas may be designated by the following codes: ND--No Data, ID--Insufficient Data, AD--Ambiguous Data, MD--Misleading Data.

Section 4c

Family: 20
Unit: B
Interviewer: 2
Date: 2-1-64

IDENTIFICATION OF CONFLICT AREAS

5. On the basis of this interview, what are the overt and covert problems of the other siblings in this family? List each separately.

Other siblings	Overt Problems	Covert Problems	C.R.*	L.C.C.**
				N.D.

6. How does the functioning of this family unit affect the total family pattern?

Affect of unit on family pattern	C.R.*	L.C.C.**
This unit, the parents, affects the family pattern in basically a good way. That is to say, they are basically harmonious with each other, work towards the unification and upbuilding of the family. However, these same good traits tend to become not so healthy because of the exaggerated nature of their efforts. Both try very hard, though they don't agree upon aims or methods. This results in a kind of male-female division of the family with the females as guardians of the ambition and morality, and males as the people who are worked on, with father standing with the boys and a little bit to side in his efforts to ameliorate the high influence of mother.	5	

* Rate confidence in statements by using appropriate number:
(1) Lack of confidence, (2) Little confidence, (3) Some confidence,
(4) Adequate confidence, (5) Quite confident.
**Low confidence in identification of conflict areas may be designated by the following codes: ND--No Data, ID--Insufficient Data, AD--Ambiguous Data, MD--Misleading Data.

Family: 20
Unit: B
Interviewer: 2
Date: 2-1-64

Section 5

SELECTION OF MOST IMPORT FAMILY DYNAMICS RELATIVE TO THE CHILD-PATIENT'S OVERT PROBLEMS

In completing this sheet, use only the item numbers listed on pages 1, 2, 3, and 4a-c.

1. From the first worksheet, select the three (3) clinical incidents from this interview which have most significance for understanding the referred child's overt problems.

Clinical Incident Number	C.R.*	L.C.C.**
1. 1	5	
2. 2	5	
3. 3	5	

2. From the second worksheet, select the three (3) interpersonal perceptions (including self-concepts) which have most significance for understanding the referred child's overt problems.

Interpersonal Perception Number	C.R.*	L.C.C.**
1. 1-4	5	
2. 2-4	5	
3. 2-1	5	

3. From the third worksheet, select the three (3) family relationships which have most significance for understanding the referred child's overt problems.

Family Relationship Number	C.R.*	L.C.C.**
1. 1	5	
2. 2	5	
3. 4	5	

* Rate confidence in statements by using appropriate number: (1) Lack of confidence, (2) Little confidence, (3) Some confidence, (4) Adequate confidence, (5) Quite confident.
**Low confidence identification of conflict areas may be designated by the following codes: ND--No Data, ID--Insufficient Data, AD--Ambiguous Data, MD--Misleading Data.

Section 6

Family: 20
Unit: B
Interviewer: 2
Date: 2-1-64

INTERVIEW RATING SCALE

1. The amount of general information yielded by this interview was:

LARGE X : ____ : ____ : ____ : ____ : ____ SMALL

2. This family unit tended to produce data which were primarily:

INTERPERSONAL ____ : ____ : X : ____ : ____ : ____ INTRAPERSONAL

3. The composer of the patient(s) can be described as:

UNCOMFORTABLE ____ : ____ : ____ : ____ : X : ____ COMFORTABLE

4. In terms of time orientation, this interview tended to produce data:

CURRENT EVENTS ____ : X : ____ : ____ : ____ : ____ HISTORICAL EVENTS

5. In terms of clinically significant material, this interview was:

UNPRODUCTIVE ____ : ____ : ____ : ____ : ____ : X VERY PRODUCTIVE

6. The level of anxiety of the interviewer during this interview was:

HIGH ____ : ____ : ____ : ____ : ____ : X LOW

7. This family unit tends to handle communications by:

HELPFUL EXPLORATION ____ : X : ____ : ____ : ____ : ____ BLOCKING EXPLORATION

8. The patient(s) seemed to feel that this interview was:

VERY HELPFUL ____ : ____ : ____ : X : ____ : ____ NOT HELPFUL

9. The rapport between the interviewer and the patient(s) was:

VERY POOR ____ : ____ : ____ : ____ : ____ : X VERY GOOD

10. At this point, do you feel further interviews will change your understanding of the family dynamics:

SUBSTANTIALLY ____ : ____ : ____ : ____ : ____ : X VERY LITTLE

APPENDIX 2

SUMMARY OF ANALYSIS OF INTERVIEWER REPORT FORM

The Interviewer Report Form preceeds this section as Appendix 1.

The first step to be undertaken was the analysis of the Interview Rating Scale, Section 6 of the form. Interviewers had been asked to rate each interview on a 6 point scale. Differences among the main scores on these scales for the various interview units were examined. The statistical technique employed was a General Analysis of Variance by unit and by position.[1] The results of these analyses are presented as Table IV, Exhibit A.

These results seem self explanatory and not unexpected. Interviewing the parents and in particular the mother, as is usual clinical practice gave the most information in the opinion of the interviewers. It may be that interviewers are used to basing their diagnoses on interpersonal and historical information which they have rated as being greater in the interviews with the mother and parents than in the interviews in which the whole family is present.

In the Analysis of Variance by position, the only significant difference found was on Question 10. ("At this point, do you feel further interviews will change your understanding of the family dynamics?") The differences here are in the expected directions. Interviewers expected to increase in their understanding eariler in the interview sequence. As this question showed no significant differences among units, there seems to have been no compounding of unit and position effect on this question. Conversely, there was no position effect on the scales showing significant differences among units. Thus the fact that the Latin Square design which would have controlled unit and position effect was not strictly followed does not seem to have had any deleterious effect on this analysis.

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[1] See J. P. Guilford: Fundamental Statistics in Psychology and Education, 1950, McGraw Hill, New York

In Section 1 the interviewers were asked to list incidents that occurred during the interview which they felt to be of clinical importance. These were statements or gestures made by the interviewees during the interview. The average number and length of incidents (measured in inches) were compared for each interviewer and each unit. It was felt that these measures might be a rough indication of the amount of important informatinn yielded by different units. Table 1 summarizes these results. While interviewers differed on the number and length of the incidents that they listed, there were only negligible differences among the interview units on these two measures.

In Section 2 interviewers were asked to make judgments about all intra or interpersonal perceptions of all family members. When they felt unable to make a judgment they were asked to use the following key as an explanation: No Data (N.D.), Insufficient Data (I.D.), Misleading Data (M.D.) or Ambiguous Data (A.D.). The percent of these ratings was computed as an estimate of the amount of information yielded by the various interview units. The higher percentage of N.D. ratings presumably indicates less information yielded in the interview. Table 2 summarizes these results. The rank order of units from high percent of N.D. ratings to low is as follows: Referred Child, Mother, Father, Parents, Siblings, and Family. As the information being rated is of the interpersonal perceptions of pairs of family members the results are consistent with expectations. Comparison with the results on Question 1 of the rating scale suggests that this rank ordering does not agree with the interviewers' perceptions of which interviews gave the most information. The differences seem due to the nature of the information being requested. Section 2 deals with interpersonal perceptions primarily, while "amount of general information" on Question 1 leaves the definition of information to the rater. It seems likely that the interviewers did not weigh as equally important to their understanding of the families all of the interpersonal perceptions of the family members.

In Section 4a the interviewer listed the referred child's overt and covert problems as he felt they were revealed in the particular interview. As the overt and covert problems were listed in the interviewer's own words, an attempt had to be made to categorize these statements in some way to make them comparable across interviews, families and interviewers. A rough coding index was devised which ighnored the qualitative statement (that is, the type of problem mentioned), but attempted to give an Index of Similarity which could be compared across interviews. A letter was assigned, beginning with "a", to each new problem listed by the interviewer for each unit, beginning with the first interview for each family regardless of unit. If the problem was mentioned again in succeeding interviews the original letter was assigned. Thus, if bedwetting were the overt problem stated in interview unit 1, each time it was mentioned again for that family in succeeding interviews, it was again labled "a". Of course, some judgment had to be made when the same problem was stated in different words. This procedure was carried out for overt and covert problems separately. The number of times a particular problem was repeated across interviews could then be counted. As the number of problems listed for each interview varied, a ratio had to be devised. An Index of Similarity was computed by counting the number of agreements between two interviews and dividing by the average number of observations for the two interviews:

$$\text{Index of Similarity} = \frac{1}{2} \quad \frac{\text{Number of Agreements}}{X + Y}$$

X = Number of observations in interview X

Y = Number of observations in interview Y

The index equals the number of times the same symptom was mentioned between pairs, divided by the average number of problems listed for the two interview units being compared.

Similarity between interviews at different distances from one another in the interviewing sequence were also compared. Position 1 refers to the interviews which either precede or follow one another but are adjacent and so forth to Position 5 which refers to interviews separated by the maximum number of intervening interviews. Similarity indices of units and position were computed for each interviewer and for the total number of interviews. The pairs of interviews compared with one another were then ranked from high to low similarity. Thus, we have rank ordering of degree of similarity between pairs of interviews by unit, by position and for interviewers separately and together and for overt and covert problems.

The index of similarity, it was thought, would give a rough measure of the amount of new information yielded by different interview units and would suggest whether succeeding interviews tended to give new information or whether the problems listed by the interviewer tended to remain the same from the first to the last interview. Analyzing the interviewers separately would tell if these dimensions differed for different interviewers. The results are presented in Tables 3 and 4.

Rank ordering of similarity for the total number of interviews by position yielded the expected results, the greatest similarity existed between adjacent interviews. When interviewers are analyzed separately, however, this consistency is not seen. It seems likely that this results from unrealiability due to the small number of cases for each interviewer. While the data may present some interesting speculations (i.e., the mother appears, possibly, to present the greatest source of new information, the father and referred child interviews are more dissimilar), the lack of consistency between the rank orderings of different interviewers makes interpretation difficult.

As the coding of similarity did not reveal any clear cut results, an attempt was made to develop a categorizing system which would retain the qualitative nature of the data. The coding system was developed by examining the Interviewer Report Forms of the first 10 families and devising categories which seemed to fit. Then the whole set of Interviewer Report Forms were coded by two research assistants. The inter scorer reliability was low. Certain categories were combined where confusion in scoring seemed to occur and where there seemed no theoretically important differences between the categories. While the number of problems listed varied, each problem was only scored in one category. A frequency count of the number of times a category was used was made for each interviewer across units and position, as well as total frequency for all interviewers. As may be seen in Tables 5 and 6, there seem to be no differences in analyzing the totals by unit and position. (There were no differences when the same data was analyzed for each interviewer.) Across unit there clearly appears to be no differences in the frequency a particular category was used. There are, however, differences in the frequency that the categories are used. The most frequently mentioned problems fall into the categories of adjustment to the external world, outside social agencies, disturbances in relationships with members of the family and disturbances in emotional control. There do not appear to be any major differences in the number of times the various categories were employed by different interviewers when the total number of problems listed is controlled.

No conclusion can be drawn from this aspect of the study.

It seems, however, from inspection by the researcher and the assistants, that once a problem category had been decided on by the interviewer in the first interview, it tended to be restated throughout the interviews. This does not deny the likelihood of these problems being elaborated and understood in terms of the whole family dynamics more fully by the end of the series of interviews, but greater depth of understanding was not elicited by the question.

Sometime after finishing their interviews two of the interviewers ranked the units according to "their overall value in understanding the dynamics of the family in relation to the chief complaint of the referred child." For each family and for all the families each interviewer varied in the units he rated as having been most to least valuable for each family he interviewed. The two interviewers also differed in their ratings of the value of each unit across all the families. The psychoanalyst, perhaps surprisingly, indicated a preference for the whole family unit while the social worker preferred the interview with the parents. There was no correlation between their two rank orderings. These preferences can probably be related to the different interviewing characteristics of the two interviewers, the psychoanalyst was described in another part of this study as being more interpretive in his approach and the social worker as being more information seeking. Also it seems clear that families respond differently to the various interview units according to their own characteristics.

Perhaps a fruitful line of approach for future study is to explore the relationship between the personality characteristics of the families (particularly in the way they handle communication or tend to distort information) and their productivity in different interview units. It is likely that the type of problem of the referred child and the characteristics of the families as well as the preferred approach of the interviewer effect the amount of information the interviewer feels he can acquire from different units.

With the exception of Section 6, the results of analysis of the Interview Report Form were disappointing.

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TABLE 1

Average Number of Incidents

(Average Length of Incidents)

Interviewer No.	A	B	C	D	E	F	Average
#1	24	15	11	19	18	26	19
	(.4)	(.3)	(.6)	(.3)	(.4)	(.3)	(.4)
#2	10	8	7	6	8	6	8
	(.8)	(.9)	(.8)	(.7)	(.6)	(.9)	(.8)
#3	23	21	18	17	20	21	20
	(.8)	(1.2)	(.9)	(.9)	(.8)	(.7)	(.9)
#4	7	6	6	6	5	6	6
	(1.1)	(1.3)	(1.3)	(1.4)	(1.4)	(1.0)	(1.2)

TABLE 2

Percentage of "No Data", Etc. Ratings on Section 2 of Report Form

	UNITS					
Family	A	B	C	D	E	F
1	21%	33%	64%	52%	36%	24%
2	13	48	45	42	64	26
3	22	35	72	74	78	42
4	3	16	42	26	45	35
5	0	0	32	45	22	0
6	35	29	16	64	29	35
7	16	42	55	52	45	26
8	16	13	35	45	55	35
9	6	0	16	32	45	19
10	14	36	36	50	54	41
11	0	32	41	50	45	32
12	18	18	9	9	50	4
13	33	61	75	50	67	18
14	26	61	61	64	64	35
15	0	23	41	27	50	23
16	4	9	14	9	32	27
17	28	0	33	12	60	0
18	65	71	76	74	76	69
19	13	48	19	48	55	10
20	16	48	68	64	64	45
21	3	13	32	32	19	6
22	9	41	54	36	54	45
Total	20% Family	34% Parents	48% Mother	47% Father	54% R.C.	28% sibs.

TABLE 3

Rank Order of Similarity
(Overt Problems of Referred Child)

	Interviewer				
	1	2	3	4	All Interviewers
Units being compared	Rank Orders				
Family - Parents	6	12	8.5	7.5	11.5
Family - Mother	10.5	8	10.5	1	8
Family - Father	2	7	4	9	1
Family - R. C.	1	9.5	5	12	2.5
Family - Sibs	13	9.5	6	2	4
Parents - Mother	10.5	13	2.5	10	10
Parents - Father	12	4	8.5	3	6
Parents - R. C.	5	11	14	11	13
Parents - Sibs	14	3	15	5	11.5
Mother - Father	8.5	1	10.5	6	6
Mother - R. C.	4	14.5	12	13	14.5
Mother - Sibs	15	14.5	13	4	14.5
Father - R. C.	3	5.5	1	15	2.5
Father - Sibs	8.5	5.5	7	7.5	9
R. C. - Sibs	7	2	2.5	14	6
Position					
± 1	2	4	1	2	1
± 2	3	2.5	2.5	4	2.5
± 3	4	5	2.5	3	4
± 4	1	2.5	5	1	2.5
± 5	5	1	4	5	5

* 1= High Similarity

T A B L E 4

Rank Order by Interviewer (Covert Problems of Referred Child)

	Interviewer				
	1	2	3	4	All Interviewers
Units being compared	Rank Orders				
Family - Parents	8	3.5	7	12	6
Family - Mother	14.5	12	8	9.5	14
Family - Father	4.5	5	12.5	14	10.5
Family - R. C.	2	7.5	11	15	8.5
Family - Siblings	3	1	10	13	2.5
Parents - Mother	7	6	6	4	4.5
Parents - Father	4.5	9.5	4.5	6.5	2.5
Parents - R. C.	6	7.5	2	9.5	4.5
Parents - Siblings	11	12	12.5	4	12
Mother - Father	12.5	14	14	9.5	15
Mother - R. C.	12.5	12	1	4	10.5
Mother - Siblings	14.5	3.5	3	1.5	7
Father - R. C.	1	2	9	6.5	1
Father - Siblings	9.5	9.5	15	9.5	13
R. C. - Siblings	9.5	15	4.5	1.5	8.5
Position					
± 1	1	1	4	2	1
± 2	2	4	2.5	4.5	2
± 3	3	2	5	3	3.5
± 4	4	3	2.5	4.5	3.5
± 5	5	5	1	1	5

* 1= High Similarity

T A B L E 5

Total Frequency of Categories Scored for Referred Child's Overt and Covert Problems

	UNIT						
Category No.	A	B	C	D	E	F	Total
1	5	4	4	3	2	2	20
2	12	24	15	21	30	21	123
3	5	6	9	4	5	1	30
4	7	6	13	9	4	8	47
5	11	10	6	7	9	7	50
6	5	5	8	7	8	8	41
7	15	12	13	12	22	11	85
8	6	8	13	7	7	5	46
9	0	1	0	0	1	0	2
10	1	1	1	1	5	2	11
11	19	17	17	18	17	14	102
12	20	21	29	37	22	24	153
13	23	16	16	15	11	22	103
14	3	2	1	1	3	2	12
15	3	1	3	0	1	3	11
16	0	0	0	0	0	0	0
17	0	1	0	0	1	1	3
18	0	0	2	1	3	1	7
19	5	5	10	5	10	4	39
Total	140	140	160	148	161	136	885

TABLE 6

Total Frequency of Categories Scored for Referred Child's Overt and Covert Problems

	POSITION						
Category No.	1	2	3	4	5	6	Total
1	4	5	2	5	2	2	20
2	21	18	15	24	18	27	123
3	8	5	3	4	4	5	29
4	4	6	10	8	10	8	46
5	6	9	9	10	10	8	52
6	9	8	6	8	5	5	41
7	13	12	18	21	13	7	84
8	7	13	6	5	5	10	46
9	1	0	0	0	0	1	2
10	1	3	1	1	2	3	11
11	24	17	16	16	15	14	102
12	19	25	24	23	30	32	153
13	21	19	18	12	15	17	102
14	1	2	2	4	1	1	11
15	3	1	0	4	1	2	11
16	0	0	0	0	0	0	0
17	3	0	0	0	0	0	3
18	2	1	1	0	2	1	7
19	6	6	7	6	6	8	39
Total	153	150	138	151	139	151	882